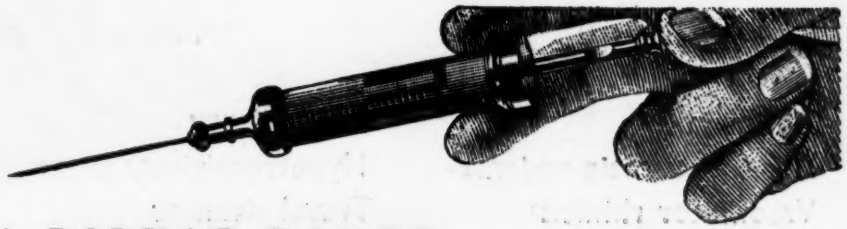
C.M.A. BIENNIAL CONFERENCE

Nagpur, October, 24-27, 1953

THE JOURNAL OF THE CHRISTIAN MEDICAL ASSOCIATION OF INDIA PAKISTAN, BURMA AND CEYLON

Published Bi-monthly

Vol. XXVIII SEPTEMBER 1953 No. 5



A DIRECT ROUTE

to assured results with

'ACETYLARSAN'

trade mark brand

DIETHYLAMINE ACETARSOL SOLUTION

the arsenical for painless intramuscular injection in all stages of syphilis and yaws.

AN M&B brand MEDICAL PRODUCT

Detailed literature available on request

Manufactured by

MAY & BAKER LTD

Supplies

23.6% Solution for Adults.

Boxes of 10x3 c.c. ampoules (each c.c. contains 50 mgm. arsenic).

9.4% Solution for Children.

Boxes of 10x2 c.c. ampoules (each c.c. contains 20 mgm. arsenic).

Distributors: MAY & BAKER (INDIA) LTD. BOMBAY . CALCUTTA . MADRAS . NEW DELHI . GAUHATI

MA1301-4

In Allergies

2

Antistine

Pyribenzamine

effective antihistaminics

Urticaria
Angio-neurotic oedema
Vasomotor rhinitis
Food allergy
Hypersensitivity to drugs
Travel sickness

ANTISTINE: Tablets – Ampoules – Cream
PYRIBENZAMINE: Tablets – Elixir

CIBA PHARMA LIMITED
P. O. BOX NO. 1123 BOMBAY

ADVANCE PROGRAMME

FOURTEENTH GENERAL CONFERENCE OF THE CHRISTIAN MEDICAL ASSOCIATION

AND

ANNUAL MEETING OF THE NURSES AUXILIARY OF THE C.M.A.

to be held at

THE MOTT Y.M.C.A. HOSTEL, NAGPUR

October 24—27, 1953

Saturday, October 24

8: 30	Registration	
10: 00	Opening of the Commercial Exhibit	
10: 30	Inaugural Session Devotional Service	The Rt. Rev. George Sinker, Bishop of Nagpur Chaplain of the Conference
	Address of Welcome	*To be announced*
	Presidential Address	Dr. H. M. Lazarus
1: 15	Registration	
2: 30	Opening Business Session*	
5: 00	Clinical Session. *Medicine* "Ascites"	Dr. M. P. Ranbhise Miraj Medical Centre, *Miraj*
	"Tumours of the Mouth Ten-Year Review"	Dr. Elizabeth Thomas, (Mrs. T.T.) Christian Medical College, *Vellore*
	"Treatment of Pulmonary Tuberculosis in a General Hospital"	Dr. Charles V. Perrill Clara Swain Hospital *Bareilly*

8: 30	Introduction to Discussion Groups**	
	(*a*) "Family Planning"	Dr. John B. Wyon Christian Medical College, *Ludhiana*
	(*b*) "Borderline Mental Cases in the Christian Hospital"	Dr. Dagmar Norell or Mr. K. V. Rajan Nur Manzil Psychiatric Clinic, *Lucknow*
	(*c*) "The New Nursing Syllabus"	Miss A. M. Bullock, S.R.N. Nursing Adviser to the Inspector General of Civic Hospitals, Government of Assam and Miss Lois Marsilje Scudder Memorial Hospital, *Ranipet*

Sunday, October 25

At the Cathedral

9: 30	Conference Communion Service	The Chaplain
10: 30	Conference Worship Service	The Chaplain

At the Hostel

5: 30	Discussion	
	"The Church and the Hospital" Leader	Dr. Claire P. Thomson, St. Denys Hospital, *Itki*
8: 30	Informal Service of Prayer and Praise	*Leader to be announced*

Monday, October 26

8: 15	Discussion Groups**	
9: 30	Devotional Service	The Conference Chaplain
10: 15	Clinical Session: *Surgery*	
	"Carcinoma of the Prostate"	Dr. John K. Ormond, Miraj Medical Centre, *Miraj*

	"Preliminary Report on a new operation for Duodenal Ulcer"	Dr. E. S. Chellappa, W.F.P.M. Hospital, *Madhurai*
	"The Undiagnosed Acute Abdomen"	Dr. D. S. C. Devadhar *Bombay*
2: 00	Tour of Nagpur	
4: 00	"At Home" National Christian Council Grounds	
6: 15	Second Business Session	
8: 30	Discussion Groups**	

Tuesday, October 27

8: 30	Devotional Service	The Conference Chaplain
9: 00	Clinical Session. *Public Health*	
	"The Place and Training of the Village Health Worker"	Dr. Carl E. Taylor, Christian Medical College, *Ludhiana*
	"Sanitation of Public Institutions and Rural Communities"	Dr. Purtej Singh, Health Engineer to the *Madhya Pradesh Government*
	"Practical Experience in Village Health Work."	Dr. Gladys Rutherford, India Village Service, *Etah*
11: 30	*To be announced*	
1: 30	Closing Session: Report of Findings	
	Closing Devotional Service	
4: 00	Departure	

All meetings unless otherwise specified will be in the Mott Hostel of the Y.M.C.A.

Meal Hours: Week days	Breakfast	7: 30	Sunday	Breakfast	8: 15
	Lunch	12: 30		Lunch	1: 00
	Dinner	7: 30		Dinner	7: 30

Breakfast for those residing in Gardiner Hostel will be served there. All other meals will be served in the Mott Hostel including breakfast for those who reside there.

* Separate Business Sessions for the Association and the Auxiliary will be held, the former in the Mott Hostel and the latter in the Gardiner Hostel.

** Each member of the Association or of the Auxiliary will be a member of one discussion group but will have free choice of the group which he wishes to attend. The Introductory addresses to Groups *a* and *b* together with the group meetings will be held in the Mott Hostel; the introductory papers and the discussion of subject *c* will be held in the Gardiner Hostel.

Opportunity for visiting the Mure Memorial Hospital on the compound adjoining the Y.M.C.A. will be given during the Conference.

If there is sufficient demand, arrangements may be made for a visit to Sevagram following the Conference.

WESLEY PRESS, MYSORE

CHRISTIAN MEDICAL ASSOCIATION
OF INDIA, PAKISTAN, BURMA AND CEYLON

President

HILDA M. LAZARUS, C.B.E., F.R.C.S., D.G.O., F.R.C.O.G., F.A.C.S.
Christian Medical College, Vellore

Vice-President

P. D. SUKHNANDAN, F.C.P.S. (Bom.), Christian Hospital, Mungeli, M.P.

Honorary Vice-Presidents

E. MUIR, M.D., London
T. T. THOMSON, M.B., CH.B. (Ed.), London
R. H. H. GOHEEN, M.D., New York
SIR HENRY HOLLAND, KT., C.I.E., M.B., CH.B. (Ed.), F.R.C.S.E., London
P. V. BENJAMIN, M.B., B.S., T.D.D. (Wales), New Delhi

Secretary

E. W. WILDER, M.D., Nelson Square, Nagpur, Madhya Pradesh

Treasurer

E. W. WILDER, M.D., Nelson Square, Nagpur, Madhya Pradesh

Editor

HERBERT H. GASS, M.D., Christian Medical College, Vellore

Assistant Editor

DONALD E. PATERSON, M.B., CH.B., M.RAD., D.M.R.D. (Lond.)
Christian Medical College, Vellore

Editorial Board

THE EDITOR — ASSISTANT EDITOR
D. S. C. DEVADHAR, M.S. — I. E. J. DAVID, L.M.S.
Y. D. UZGARE, M.B., B.S.

Executive Committee

THE PRESIDENT — THE VICE-PRESIDENT — THE TREASURER
THE EDITOR — THE SECRETARY

E. P. AZARIAH, M.B., B.S.
P. V. BENJAMIN, M.B., B.S., T.D.D. (Wales)
S. BERGSMA, M.D.
A. G. FLETCHER, JR., M.D.
A. B. COOK, M.D., F.R.C.S. (Ed.), F.R.A.C.S., M.R.C.P. (Lond.)
S. GAIKWAD, L.S.M.F.
J. C. SAVARIRAYAN, M.B., B.S.
SECRETARY OF THE NURSES' AUXILIARY

Sectional Secretaries

Andhra Area	...	DR A. G. BOGGS, Ongole, Guntur Dist., S.I.
Assam	...	DR RISAW SINGH SYEIM, JAIAW LAITDOM, Shillong, Assam
Bengal	...	DR J. M. GHOSH, Santal Mission, Sarenga, Bankura, W. Bengal
Bihar	...	DR WINIFRED ANDERSON, Duchess of Teck Hospital, Gulzarbagh
Maharashtra	...	DR DAVID A. BIDARI, Pandharpur, Sholapur Dt.
Gujerat	...	DR H. C. ALDRICH, Methodist Hospital, Nadiad
Hyderabad	...	DR C. J. A. MACADEN, Jalna
Karnataka	...	DR C. G. CUTTING, Chikaballapur, Mysore
Kerala	...	DR GEORGE KURUVILLA, Tiruvella, Travancore
Madras	...	DR J. C. SAVARIRAYAN, Ranipet, N. Arcot
Mid-India	...	DR P. D. SUKHNANDAN, Christian Hospital, Mungeli, Madhya Pradesh
N.-W. India	...	DR PERCY PAUL, Ambala, Punjab (I)
Utkul	...	DR M. RIGDEN GREEN, Baptist Mission Hospital, Berhampore, Orissa
Uttar Pradesh	...	DR MANOHAR MASIH, Almora, U.P.

Affiliated Organizations

Christian Medical Council of Burma ...	*Secretary*, DR G. R. D. DANIEL, Upper Phayre St., Rangoon
Christian Medical Association of West Pakistan ...	*Secretary*, DR JOHN VROON, Memorial Hospital, Sialkot, W. Punjab

CHRISTIAN MEDICAL ASSOCIATION
OF INDIA, PAKISTAN, BURMA AND CEYLON

PROPOSALS FOR MEMBERSHIP

FIRST INSERTION

SUKHALATA DAS, M.B., B.S. (Orissa)
Landour Community Hospital, Landour, Mussoorie, U.P.

(MRS) MARIAN ALICE KORTELING LEVAI, M.D. (Michigan)
c/o Christian Medical College, Vellore, N. Arcot

JAMES BACHRACH, M.D. (Brussels)
Arappeta, Meppadi, Wynaad, Malabar, South India

GENEVIEVE MCWILLIAMS, M.D. (Loma Linda)
Giffard Mission Hospital, Nuzvid, Kistna Dt.

MARY B. DHANVADE, L.C.P. & S. (Bom.)
A.P. Mission Hospital, Kodali, Mahal Panhala, Dist. Kolhapur

RISAW SINGH SYIEM, M.B., B.S. (Madras)
Jaiaw Laitdom, Shillong, K. & K. Hills Dt., Assam

(MISS) MIRIAM MANUEL, M.B., B.S., M.D. (Madras)
Christian Medical College Hospital, Vellore, N. Arcot Dist., S.I.

(MRS) I. DEVADASAN LYALL M.B., B.S., D.T.M.
c/o DR B. W. LYALL, P.M.S.I.

Ursula Horsman Memorial Hospital, Kanpur

MAJOR E. J. RAMDAS, M.B., B.S., M.S. (Bom.)
Dhum Manor, Patel Colony, Nasik City, B.S.

SECOND INSERTION

MARIAN O. BOEHR, M.D. (Northwestern)
American Baptist Mission, Ramapatnam, Nellore District

ISRAEL D. KALEY, L.M.P. (Nag.), L.C.P. & S. (Bom.)
Wanless Hospital, Miraj Medical Centre, Miraj, South Satara District

ODILIA KONIG, M.D. (Giessen)
Gandhi Gram, Madurai District

P. SINGH ROY, M.B., B.S.
Virani Dispensary, Rajkot, Saurashtra

GUNTUR S. GRAMSCH, M.D. (Ber.), D.T.M. & H. (Hamb.)
Thomas Emery Hospital, Moradabad, U.P.

(MISS) H. ROBERTS, L.M.P. (Cal.)
Thomas Emery Hospital, Moradabad, U.P.

G. P. SINGH, L.M.B. (M.P.)
Thomas Emery Hospital, Moradabad, U.P.

JOHN BREEZE, M.B., CH.B. (Aberdeen), D.R.C.O.G.
I.P. Mission Hospital, Anand, Dist. Kaira

DOROTHEA KELSO, M.B. (Belfast)
I.P. Mission, Rajkot, Saurashtra

JOHN H. PAINTER, M.D.
U.S.A. Medical Corps., American Embassy, New Delhi

FREDERICK G. SCOVEL, M.D. (Cornell), F.A.C.P.
Christian Medical College, Ludhiana, Punjab, India

ERNEST B. PEDERSEN, M.B., B.S. (Melbourne)
Emery Hospital, Anand, Kaira Dist, B.P.

P. HAQ
Beadon Road, Lahore, W. Pakistan

SHARK LIVER OIL

POT CITRATE POT ACETATE
SODA CITRATE
MILK OF MAGNESIA

Inquiries solicited

L. J. HALLEN & CO.
Manufacturing Chemists, BOMBAY 8

ALL INDIA MISSIONS TABLET INDUSTRY

BANGARAPET, S. INDIA

The sign of economy combined with quality

TABLETS	SPECIALS
FOLIC ACID	MEDICINE CASES
VITAMIN K.	BIBLES
VITAMIN B COMPLEX	IODINE SWABS
SULPHANILAMIDE	AMMONIATED MERCURY
ASPIRIN COMPOUND	OINTMENT

Mission Institutions Only **Write for price list**

Some Distinguished Specialities of

SILTEN LTD., LONDON

LEUCOTROPIN 'SILBE' INJECTIONS AND TABLETS	In all Rheumatic diseases, Arthritis, Polyarthritis, Inflammatory affections, Articular rheumatism, Sciatica, Lumbago, Neuralgia.
LEUCOSALYL 'SILBE' INJECTIONS	Especially effective in chronic and acute Sciatica and Lumbago, Arthritis deformans, Articular rheumatism.
BRONCHISAN ASTHMA TABLETS	Bronchial Asthma, Bronchitis, Bronchial catarrh, Hay Fever.
PAPATROPIN TABLETS	Antispasmodic with a special sedative action on the vagus, Spasms of the gastrointestinal tract, Colics of all sorts, Vomiting during pregnancy, affections of bile and gall bladder, Angina pectoris, cardiac asthma.

Sole Agents for India:

VYAS BROTHERS LIMITED

CHEMISTS

PRINCESS STREET, BOMBAY 2

STATION ROAD, ANAND (Dist. Kaira)

TO

MISSION HOSPITALS AND GENERAL PRACTITIONERS

The Associated Drug Co., Ltd., Yercaud, is now under the management of a well-known retired missionary, for more than twenty-five years the Chemist and Business Manager of a large Medical Mission in South India.

Our aim is to provide at a reasonable cost, a series of Pharmaceutical preparations that are intelligently formulated, conscientiously compounded and economically packed and priced. Moreover, the exact formula is printed on the label of each article.

You may have received one of our booklets, which are issued to the Medical Profession, in which is given a clear and concise description of each preparation and indications for its use. If you have not received a copy, we shall be happy to send you one, on request.

The current list includes:

LIVOZYME:	Non-alcoholic Liver Extract Tonic, available in three formulations, viz.
"Plain":	Ferruginous
"With Folic Acid":	Containing Folic Acid but not Ferruginous
"12":	Containing Vitamin B_{12} but not Ferruginous
CHESTOCAL:	Plain or with Ephedrine—a Sedative, healing cough syrup
FERMICAL:	Ferruginous Hypophosphite Syrup c̄ Vitamin D
VICALMIN c̄ D:	Palatable Calcium with multi-vitamins
INTESTIFORM:	Tablets containing Activated charcoal-Yeast-Tannic Acid etc.
GELETTA:	A very efficient Haematinic compound in tablet form.
MILKAN:	A series of most effective skin preparations, utilizing an entirely new principle of milk albumin base now professionally approved and recommended in Dermatological practice.

We shall esteem it a privilege to send clinical samples of any of the above preparations for your personal trial on request.

SERVING THE PROFESSION
SINCE 1920

Surgeons'
INSTRUMENTS

Hospital
EQUIPMENT
&
Day-to-day
SUPPLIES

RUBBER GOODS
ENAMELWARE
ETC.

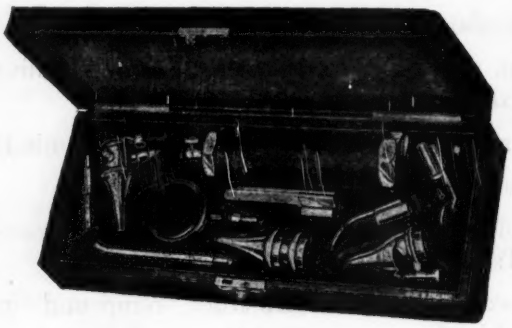
TELEPHONE: 41936
TELEGRAMS: "SURGICO"

SERVICE! counts!

IT is our pledge that in all our dealings with our clients—Hospitals, Surgeons, Physicians all over India—we shall continue to work earnestly to serve them better, give them always better value, fill their orders accurately and *as far as possible* completely and always forward them with the utmost speed by the cheapest and quickest route, so that the *right* goods are in their hands when needed . . . .

BOMBAY SURGICAL CO.

NEW CHARNI ROAD, BOMBAY—4



FRESH ARRIVALS OF

MICROSCOPES
for Clinics and Students
COLORIMETERS
HAEMOMETERS
HAEMOCYTOMETERS
CENTRIFUGE
Machines Electric and Hand
SEDIMENTATION
Apparatus
LABORATORY GLASS
Wares
DIAGNOSTIC SETS
BIOLOGICAL STAINS
KAHN & WIDAL
Test Outfits

D. SHAH & COMPANY

Importer and Exporter of
Hospital and Laboratory Requisites
24, Sardar Griha Building, Lohar Chawl
BOMBAY 2

Tel: **'SCIENCAID'**

VIBELAN
INJECTION

A stable Vitamin B Compound, at a price all patients can afford.

POTENCY INCREASED ★ PRICE DECREASED

A product every doctor can use a dozen times a day.

From all chemists

Box of 100 x 2 ml. ampoules,
Vial of 10 ml.

VIBELAN TABLETS also available in palatable chocolate-coated tablets.

Bottles of 25, 100 and 500.

BRITISH DRUG HOUSES (INDIA) LTD
P. O. Box 1341, BALLARD ESTATE, BOMBAY 1.
Branches at: CALCUTTA • DELHI • MADRAS

BDY-5

Telegrams: "*SUCCOUR*"

Let us have your enquiries for

DRUGS

CHEMICALS

LABORATORY EQUIPMENT

HOSPITAL EQUIPMENT

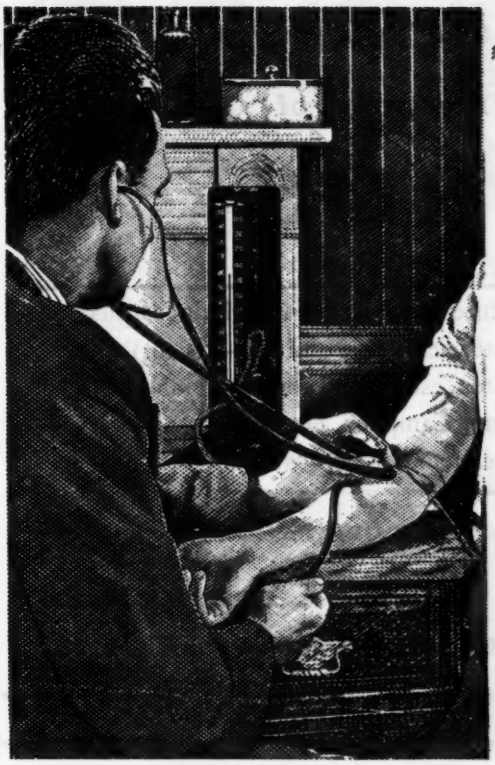
DRESSINGS

INSTRUMENTS

We can supply at reasonable prices
We can also repair instruments and microscopes

THE C.M.A.
HOSPITAL SUPPLY AGENCY

DHAPLA BUILDING, GOVERNMENT GATE ROAD
BOMBAY 12



"MEDICAL SYMPATHECTOMY" *in hypertension*

Hypertensive patients receiving most benefit from treatment with ganglion-blocking hexamethonium salts are those in whom a raised diastolic pressure is associated with severe or incapacitating symptoms that have failed to respond to the more usual methods of treatment. Many of these cases fall into the category for which, prior to the introduction of hexamethonium, the only hope of relief lay in surgical measures.

In other patients where the need for treatment is less urgent, careful case selection is necessary before routine treatment with hexamethonium salts is instituted if good results without undue side effects are to be obtained.

Hexamethonium salts are potent drugs and care must be taken in adjusting dosage to suit the needs of each patient.

' Vegolysen ' T is especially recommended for prolonged oral administration and for the bromide sensitive patient.

'VEGOLYSEN' T
trade mark *brand*
HEXAMETHONIUM BITARTRATE

'VEGOLYSEN'
trade mark *brand*
HEXAMETHONIUM BROMIDE

'VEGOLYSEN' T..... Supplied as 0·35 Gm. tablets.
'VEGOLYSEN'..... Supplied as a 10 per cent solution,

Detailed literature available on request

manufactured by
MAY & BAKER LTD

M&B *brand* MEDICAL PRODUCTS

MA 1056-5

distributors

MAY & BAKER (INDIA) LTD. BOMBAY . CALCUTTA . MADRAS . NEW DELHI . GAUHATI

For Everything of

HYDNOCARPUS

In the Treatment of

LEPROSY

We manufacture specially refined Hydnocarpus Wightiana (fatty acids free and non-irritant) Ethyl Hydnocarpates (esters) and combinations with Creosote, Iodine, Camphor, etc., etc., for Injections in the treatment of Leprosy.

PRICE LIST ON REQUEST:

B. M. JOSEPH & Co., Laboratories

PERUMANUR, ERNAKULAM (S. India)

KAHN ANTIGEN

in 10 c.c. phials

Supplied at **Rs. 12 per 10 c.c.**

Please apply to

THE CHIEF MEDICAL OFFICER

Swedish Mission Hospital

TIRUPATTUR, RAMNAD DISTRICT, S. INDIA

TO LET

T.C.F. VITAMIN B-COMPLEX
ORAL—LIQUID (Including Vitamin B_{12})
Photometrically standardised. A palatable vitamin tonic derived from natural sources and supplemented with synthetic vitamins.
Available in bottles of 100 c.c. and 185 c.c.
PARENTERAL
Photometrically standardised. Each c.c. contains 25 mgs. Vitamin B_1, 1 mg. Vitamin B_{2}, 50 mgs. Nicotinic acid amide, 2·5 mgs. Vitamin B_6, 25 mgs. Choline and a highly purified liver base to ensure stability of riboflavin.
Available in 1 c.c. and 2 c.c. ampoules and in 10 c.c. R.C. Vials.
TABLETS
Photometrically standardised. Each tablet contains 10 mgs. Vitamin B_1, 3 mgs. Vitamin B_2, 15 mgs, Nicotinic acid Amide, 2 mgs. Vitamin B_6, and 3 mgs. Cal. Pantothenate.
In bottles of 25, 100, 500 and 1000 tablets.
Products of
TEDDINGTON CHEMICAL FACTORY LTD.
(Biological & Pharmaceutical Laboratories)
Suren Road, Andheri, Bombay.
Sole Distributors:
W. T. SURÉN & CO. LTD.
Post Box 229, Bombay 1.
Branches: CALCUTTA: P. O. Box 672. MADRAS: P. O. Box 1286.

which deficiency spells **DEBILITY?**

The indefinite illness, the "general debility", poses a deficiency problem to which no single factor can provide the answer. Then it is that a general reinforcement of the diet is called for—a function which Becadex Tablets can efficiently fulfil. One Becadex Tablet daily supplies optimum amounts of the vitamins principally required by an adult in normal health, sufficient both to overcome any specific deficiency and to materially raise the all-round nutritional level. Calcium phosphate is also included in Becadex. Patients appreciate the simplicity of the Becadex routine—and the rapid return of well-being it achieves.

GLAXO

BECADEX TABLETS

Vitamins A, B_1, B_2, C and D; nicotinamide and calcium phosphate in one tablet. In bottles of 25, 100, 500.

GLAXO LABORATORIES (INDIA) LTD., BOMBAY - CALCUTTA - MADRAS

Copyright

to safeguard the interest of your PATIENT

prescribe

SECLOPEN

. . . . . and not just procaine penicillin. SECLOPEN is fortified procaine penicillin, a product of Glaxo Laboratories, reputed makers of penicillin. There are good reasons why SECLOPEN is popular.

★ SECLOPEN is painless.

★ The content is adjusted to ensure withdrawal of the full dose.

★ SECLOPEN is easy to prepare and handle. Simply inject distilled water and agitate—the preparation is ready for use.

GLAXO

SECLOPEN

In single-dose and five-dose vials

GLAXO LABORATORIES (INDIA) LTD., BOMBAY - CALCUTTA - MADRAS

MALGHAM Major Mobile Shadowfree Lamp equipped with a 200 watt bulb, having a diameter of reflecting surface 18″ with a heavy cast base fitted with castors. The projector may be raised, lowered, tipped or tilted, to any desired angle. The projector is 78″ above the floor, and it can be freely tilted about the axis of the cross-arm. All adjustments of the projector are made from the counter-weighted end of the cross-arm, and are self-retaining. Ideal for gynaec work and wherever deep cavities are to be illuminated. A boon to E.N.T. and Gynaec Surgeons.

Manufactured and Sold by

MALGHAM BROS.

26, OLD CUSTOM HOUSE ROAD

FORT, BOMBAY

SIOTRAT FORTE

Each c.c. contains the active haematopoietic principle equivalent to the therapeutic activity of 600 gms. of fresh liver with 10 mgms. of Folic Acid and 30 mcg. of Vitamin B_{12}.

Folic Acid acts as a catalyst in the synthesis of Thymine, Vitamin B_{12}, on the other hand, as catalyst in the formation of thymidine from thymine.

The absence of Vitamin B_{12} means the absence of a catalyst indispensable for the building of thymo-nucleinic acid leading to slowing of the cell maturation.

Begemann: Klin. Woch. 27. 217. 1949.

Indicated in all types of macrocytic anaemia prevalent in the tropics

Available in 10 c.c. vials and 2 c.c. ampoules

ALBERT DAVID LIMITED

15, CHITTARANJAN AVENUE

CALCUTTA—13

CONTENTS

PAGE

JAUNDICE—ITS CLASSIFICATION, DIFFERENTIAL DIAGNOSIS AND TREATMENT Mary Thomas, M.D. Christian Medical College Hospital, Vellore 237

NEUROSURGERY Jacob Chandy, M.B., M.Sc., F.R.C.S. (C), F.A.C.S., F.I.C.S. Christian Medical College Hospital, Vellore 243

A FLUID BALANCE CHART AND A SIMPLE SCHEME FOR ESTIMATING SALT AND WATER NEEDS IN SURGICAL PATIENTS F. I. Tovey, F.R.C.S. Holdsworth Memorial Hospital, Mysore 246

RECENT TRENDS IN OBSTETRICS AND GYNAECOLOGY Anna Ruth Korteling, M.D. Punganur, S. India 254

PYONEPHROSIS DURING PUERPERIUM—A CASE REPORT A. M. Mathen, M.B., B.S. Christian Hospital, Azamgarh, U.P. ... 265

EDITORIAL 268

MEDITATION 268

THE C.M.A. HOSPITAL SUPPLY AGENCY 271

ASSOCIATION NOTES 276

SECRETARIAL NOTES 280

NEWS NOTES 280

NOTICES 283

NURSING NEWS 285

WIDER SCOPE FOR

CHLOROMYCETIN®

IN THE

TREATMENT OF TROPICAL DISEASES

CHLOROMYCETIN has one of the widest antibacterial spectra among established antibiotics and, in addition, is available in several forms. Its remarkable activity against a great number of pathogenic organisms—bacteria, rickettsiæ and viruses, gives it a wide application in the field of tropical medicine.

Chloromycetin has been used successfully in the treatment of

AMŒBIASIS · BOUTONNEUSE FEVER · DYSENTERY · TRACHOMA · TROPICAL ULCER · TULAREMIA
TYPHOID AND PARATYPHOID · TYPHUS AND SCRUB TYPHUS · UNDULANT FEVER
VIRAL HEPATITIS · YAWS

Supplied in vials of 12 kapseals of 250 mg.

FOR CHILDREN

PÆDIATRIC Chloromycetin PALMITATE

A pleasant-tasting suspension of a bitterless derivative of the antibiotic for administration to children. One teaspoonful (4 c.c.) is equivalent to 125 mgm. Chloromycetin. **Bottles of 60 c.c.**

FOR TOPICAL USE

Chloromycetin Cream

A cream indicated in the treatment of pyodermas, folliculitis and dermatoses of infective origin. Also effective as a routine minor wound dressing. **Tubes of 1 oz.**

FOR OPHTHALMIC USE

Chloromycetin Ophthalmic

A buffered, stable ophthalmic solution indicated in the treatment of bacterial and viral conjunctivitis, trachoma, keratitis and herpes zoster ophthalmicus. **In vials of 15 c.c. capacity.**

Chloromycetin Ophthalmic Ointment

A petrolatum-base oculentum of 1% Chloromycetin, for the topical treatment of conjunctivitis and other eye infections.

Tubes of ⅛ oz.

MEDICAMENTA VERA

PARKE, DAVIS & COMPANY, LIMITED

Inc. U.S.A. **BOMBAY**

* Registered Trade Mark.

J. Piet

HILDA M. LAZARUS, C.B.E., F.R.C.S., F.R.C.O.G., F.A.C.S.

President of the Christian Medical Association

The Journal of the
Christian Medical Association
of India, Pakistan, Burma, Ceylon

VOLUME XXVIII SEPTEMBER 1953 NUMBER 5

JAUNDICE—ITS CLASSIFICATION, DIFFERENTIAL DIAGNOSIS AND TREATMENT*

MARY THOMAS, M.D.
Christian Medical College Hospital, Vellore

JAUNDICE is best defined as hyperbilirubinaemia. The normal bilirubin content of blood is 0.5-1 mgm. per 100 c.c. An increase in this amount of circulating bilirubin manifests itself as jaundice. To understand the mechanism of the production of jaundice, a clear conception of the physiology of bile pigment formation and excretion is necessary.

Bilirubin is manufactured by the reticulo endothelial cells, both in the liver and elsewhere, from the non-iron part of the haemoglobin molecule which is made available by the constant wear and tear and breakdown of red blood cells. The bile pigments are excreted into the bile capillaries by the polygonal cells of the liver which do not, however, take any part in their formation. From the intrahepatic bile ducts the bile passes in large measure to the gall-bladder where it is concentrated by absorption of water. During digestion, bile flows into the intestines where the bilirubin is reduced to urobilinogen by bacterial action. Part of this is excreted in the stools where it is converted to urobilin by oxidation. A certain proportion of urobilinogen is absorbed into the portal circulation, passes to the liver to be converted again to bilirubin, and is almost completely re-excreted in the bile. A small quantity may escape into the general circulation and be excreted in the urine.

From the above regime, it is clear that hyperbilirubinaemia, the precursor of clinical jaundice, may theoretically occur in various ways:

1. As a result of excessive blood destruction more pigment is formed than can be excreted even by a normal liver.
2. Damage to the liver cells may impair their ability to excrete the pigment, so that it is accumulated in the blood stream.
3. As a result of occlusion of the smaller or large bile duct bile pigment, after excretion into these ducts, regurgitates into the lymphatics and blood capillaries.

McNee (1922-23), classified jaundice into:

1. Haemolytic jaundice.
2. Toxic and infective hepatic jaundice.
3. Obstructive hepatic jaundice.

* Presented at Regional (Tamil and Andhra areas) Conference, U.M.T. Sanatorium, Arogyavaram, December 1952.

This classification closely corresponds to the theoretical possibilities mentioned above. Haemolytic jaundice corresponds to the first variety, toxic and infective hepatic jaundice to the second variety, and obstructive hepatic jaundice to the third variety of the above mentioned classification.

Rich (1930), from a pathological point of view, divided jaundice into two main types:

1. Retention jaundice.
2. Regurgitation jaundice.

Retention jaundice is due to overproduction of bilirubin associated with impaired excretory function of the liver, resulting in retention of enough bilirubin in the body to stain the tissues. It is characterized by (1) increased serum bilirubin which has not passed through the liver and which gives an indirect Vandenberg reaction. (2) increased amount of faecal urobilin and urobilinuria. Pathologically the bile ducts are patent, but the liver cells show atrophic changes.

Regurgitation jaundice is characterized by (1) increase in serum bilirubin which has passed through the liver and which gives a direct Vandenberg reaction. (2) decreased amounts of faecal urobilin, (3) the presence of bilirubin and bile salts in the urine.

Watson (1940) subdivided regurgitation jaundice into three main groups:

(1) Cancerous, (2) Calculous, (3) Parenchymal, based largely on the extent of biliary obstruction.

He considered complete biliary obstruction to be present when the daily faecal excretion of urobilinogen is less than 5 mgms. (Normal 50-200 mgms.) Complete biliary obstruction was found in 92 per cent of cancer cases, 11.5 per cent of calculous group, and in only 3.5 per cent of parenchymal group. He attributed the complete biliary obstruction in cancerous jaundice to the infiltrating and stenosing effect of the neoplasm, and the incomplete obstruction in calculous jaundice to the constantly dilating effect of a duct stone. The urinary output of urobilinogen is decreased to less than 0.3 mgms. per day (Normal 0.5-2 mgms.) in 90 per cent of cancer involving the biliary tract, whereas a similar decrease was noted in only 7 per cent of cases of parenchymal jaundice. Watson also pointed out that, in the presence of complete biliary obstruction, two factors determined the intensity of jaundice:

(1) The rate and manner of wastage of haemoglobin.
(2) The loss of bilirubin in the urine.

The clinician seldom has difficulty in differentiating the haemolytic from the obstructive or parenchymal types of jaundice. The problem that usually confronts him or her in a patient with jaundice is to determine whether the cause of the jaundice is primary liver disease or obstruction of the extrahepatic bile passages. He must decide whether the jaundice is 'surgical' or 'medical'. The important causes of surgical jaundice that one comes across in ordinary practice are those caused by gall stones or tumour.

Parenchymal or 'medical' jaundice is brought about by three important causes:

1. *Toxic* or toxopathic—the toxins that may act on the liver may be endogenous, as in toxaemia of pregnancy and acute yellow

atrophy of liver, or it may be due to toxic substances ingested or inhaled, as in chloroform or trinitrotoluene poisoning.

2. *Infective*, due to bacteria, as in septic fevers; viral, as in infective hepatitis; or protozoal, as in Weil's disease.

3. *Dietetic or trophopathic*—this is the greatest contribution to liver diseases. Recently Himsworth and Glynn have done lots of experimental work on the relationship between diet and liver damage. It has been shown that defects in nutriment produce two types of changes in the liver—fatty and necrotic. Fatty changes are produced by a lack of choline or lipotropic factors. But here, in the production of jaundice, we are concerned more with the necrotic changes which are supposed to be produced by a deficiency of sulphur containing amino acids, especially cystine. The necrosis produced by trophopathic causes is massive, whereas that produced by drugs and viruses is zonal in nature.

The importance of trophic causes of damage to the liver arises during the treatment of jaundice, since both toxic and infective damage to the liver may be secondarily aggravated by trophic causes.

This differentiation between surgical and medical jaundice can be done only by the help of careful history, physical examination, available laboratory tests for liver functions, special x-ray examination, and, in some cases, by liver biopsy.

In eliciting the history of a patient with jaundice, particular attention must be paid to the following points: occupation, previous attacks of jaundice, ingestion or administration of hepato toxic drugs, digestive distress and abdominal pain, pruritus, food habits, appearance of stools and urine, and loss of weight.

Now we will take each point and discuss it:

Occupation: In certain occupations, jaundice is common. Weil's disease is common in sewer and garbage workers, miners, tunnel-diggers, rice field workers, and in those who live in rat-infested places. Toxic hepatitis is common in workers in munition factories handling trinitrotoluene.

Previous attacks of jaundice: The occurrence of a previous attack of painless jaundice in the presence of a second attack of painless jaundice will rule out the possibility of an infectious jaundice.

Previous attacks of jaundice with pain over right hypochondrium and vomiting suggests chronic cholecystitis or stone in common bile duct.

Duration and course of jaundice: The average duration of jaundice in infectious hepatitis is 3-4 weeks and in carcinoma of pancreas about 6 months. Jaundice of more than two years is likely to be due to hypertrophic biliary cirrhosis.

Jaundice caused by neoplasm, particularly cancer of the head of the pancreas, is usually progressive, whereas it is intermittent in cases of stones of the common bile duct.

Dyspeptic symptoms: A history of anorexia, nausea and epigastric discomfort before the appearance of jaundice is suggestive of a preicteric phase of infectious hepatitis. Constipation may be the presenting symptom

in patients suffering from carcinoma of head of the pancreas. A history of flatulent dyspepsia, especially after a fatty meal, is very suggestive of chronic cholecystitis or stone in the common bile duct.

Pain: In cancer of the pancreas, pain is constant and boring in character, is located in epigastrium, and radiated to the back; whereas in stone of common bile duct, pain is severe and colicky in nature over right hypochondrium and associated with nausea and vomiting.

Pruritis: Severe in all cases of regurgitation jaundice, especially in neoplasm.

Colour of stools: It is apt to be acholic for a few days and later becomes normal in infectious hepatitis; alternately acholic and cholic in cases of stone, and acholic when once the obstruction is complete in neoplasm. Tarry stools in a patient with jaundice suggest carcinoma of pancreas invading the duodenum.

Loss of weight: Most marked in cancer cases.

With regard to physical examination special attention should be paid to the liver, the gall bladder, the spleen, and the presence or absence of ascites.

Liver: An enlarged, firm, nodular liver is suggestive of neoplastic invasion, generally metastatic in character. This can be got in nodular hyperplasia also. In obstructive jaundice due to a tumour also, liver can be enlarged.

Gall-bladder: A palpable, smooth, distended, and non-tender gall-bladder in the presence of an obstructive jaundice is strongly suggestive of obstruction of common bile duct by a neoplasm, e.g., cancer head of pancreas.

Spleen: is often palpable in infectious hepatitis and not in neoplasm or calculus.

Ascites: in a patient with jaundice indicates acute or subacute yellow atrophy, hepatic cirrhosis, partial obstruction by a tumour or secondary peritoneal implants.

Liver function tests in the diagnosis of the type of jaundice

A. Active parenchymal damage is shown by the following tests:

1. Estimation of serum proteins and albumin and globulin ratio. In this the total proteins are decreased with an alteration of albumin globulin ratio.
2. Cephalin cholesterol flocculation. } Both positive in
3. Thymol turbidity. } parenchymal damage.

So these three tests are positive in parenchymal or medical jaundice.

B. In obstructive jaundice, the following tests are positive:

1. Serum bilirubin gives a direct positive reaction.
2. Serum alkaline phosphatase is increased.
3. Serum cholesterol is increased.

Tests for the detection of impairment of certain metabolic functions of the liver parenchyma are the hippuric acid test, the estimation of urobilinogen in the urine, the galactose tolerance test, and estimation of prothrombin content of blood.

It is not necessary to do all the above tests in a given case, and the ones that are done in our hospital are:

1. The Vandenberg reaction.
2. Estimation of serum proteins, and albumin globulin ratio.
3. Thymol turbidity test.
4. Cephalin cholesterol flocculation.
5. Serum alkaline phosphatase.

The liver function tests cannot always be relied upon. If the anatomic and functional derangements are complex and labile, with destruction and repair proceeding simultaneously, discrepancies between tests are common and, at times, the results may be misleading. It is very important to repeat the tests from time to time for proper diagnosis and to get a clear idea of the course of the disease.

Treatment of Jaundice

Having decided whether the jaundice is surgical or medical, the condition has to be treated accordingly. In this paper, I am going to deal with only the medical treatment of jaundice; and the condition which one commonly comes across in the wards and out-patients is infective hepatitis of viral origin. Neglect in the early stages will lead to a fatal outcome—cholaemia or liver death.

So every case of jaundice, if possible, must be hospitalized. Bed rest is very essential as long as the jaundice is on the increase. In the early stages of infective hepatitis, when the patient is suffering from nausea and vomiting, the patient is fed only on glucose and small amounts of fruit juice to which sugar is added. There is a lot of difference of opinion concerning the advantage of intravenous glucose therapy over oral glucose, if the patient can take the necessary dextrose by mouth. It has been shown that the rationale of giving glucose to these cases of jaundice is to increase the glycogen content of the liver cells, and it is also possible that the resulting hyperglycaemia inhibits neo-glycogenesis and results in needed rest to the enzyme systems responsible, thus contributing to a faster recovery. While the normal liver will respond to the usual post-prandial hyperglycaemia, associated with a high CHO intake, the 'irritable' liver in patients with acute toxaemia may require a much higher blood sugar concentration to inhibit gluconeogenesis, and this can be achieved only with I.V. dextrose administration. Wahim and Mann have shown that regeneration of hepatic tissue after injury begins on islands of normal cells that are supplied mainly by arterial blood, while the cells in areas supplied only by portal vein blood may be too badly injured to regenerate. If the cells from which regeneration is to originate are to receive the full benefit of high dextrose concentration so that they can begin to restore liver parenchyma, the hyperglycaemia following intravenous therapy is desirable.

When nausea is controlled and the patient can take some nourishment, he can, to start with, be given skimmed milk with sugar. An early return

of normal eating habits is one of the most important factors in the improvement of liver functions after the liver has been damaged. A high caloric, highly nutritious diet is most important in protecting the liver and aiding repair of liver damage. Such a diet should contain at least 3,500 calories. Of this, 1.5-2 gms./kilograms of body weight should be proteins. Protein is the most effective dietary agent in protecting the liver from damage and in promoting its repair.

The carbohydrate fraction of the diet should also be as high as possible to supply the bulk of the caloric needs and to exert a protein-sparing influence.

The question whether fat should be included in the diet of patients with liver disease is a matter of controversy. When protein intake is inadequate, it is questionable whether a diet high in fat leads to further liver damage. It is better to withhold fats throughout as there is not enough bile to absorb it.

We can meet all these demands by putting them on a special diet called 'the liver diet of Patek'. Along with this, protein foods like Ledenac or Threptin, about 4 drachms thrice a day, are given.

The role of essential amino acids and vitamins in the treatment of jaundice has to be considered next.

It has been already mentioned that, whatever the cause of jaundice may be, it can be secondarily aggravated by trophopathic causes. The liver cells withstand the toxin or infection better if they have a good storage of glycogen and the essential amino acids, which are choline and cystine. Methionine contains both, and milk is rich in cystine. So, if the diet is all right, there is no need to supplement amino acids.

Vitamins are necessary for intracellular oxidative processes of the liver. In their absence, toxic products accumulate, which could easily be a factor in the final death of liver cells. So it is important to see that there is adequate intake of Vitamin B complex—one tablet thrice a day.

Vitamin C is of value in protecting some of the enzyme systems and in improving resistance of liver cells.

Vitamin A and D are not absorbed from the gut due to lack of bile and hence 5000 and 1000 I.U. per day can be given by injections.

In these cases of jaundice there is a tendency for haemorrhage due to hypoprothrombinaemia, which is the result of inadequate absorption of Vitamin K. Usually 10 mgms. of Vitamin K is given I.M. per day. When liver damage is severe that there is little response to Vitamin K therapy, a small infusion of undiluted plasma, about 500 c.c., is indicated.

Recent research has shown that Vitamin E plays a great part in necrosis of liver. Vitamin E 100 mgms. t.d.s. per day is given.

There is a tendency for these patients to have a low serum potassium level and so potassium chloride is given orally.

Besides these general lines of treatment, symptomatic treatment can be given, depending on the case. If the bowels are constipated, concentrated mag. sulph ½-1 oz. administered in the morning on an empty stomach will have a milking action on the bile capillaries and thus will help to make the bile flow through the bile ducts.

For pruritus, Vitamin K injections, local dusting powders with a little menthol, and anti-histamine drugs can be tried.

Recently, viral hepatitis has been treated with aureomycin, 250 mgms. t.d.s. for a week. Whether aureomycin shortens the clinical course of infective hepatitis or not is unknown, as we have not tried it in any of our cases, except one, which did not show any change.

These patients with jaundice are very liable to infection, and any infection must be treated with Penicillin, or, if not responding, with Streptomycin. Sedatives like morphia and barbiturates should be avoided. Paraldehyde is the best sedative to be given to these cases.

In those cases of acute necrosis of liver with deepening jaundice, as in a severe case of infective hepatitis, acute yellow atrophy following toxaemia of pregnancy, or in those cases going into cholaemia, more rigorous lines of treatment have to be undertaken. For this, we usually give I.V. Latner's solution daily. The regime as given by Latner consists of two infusions:

Infusion 1.: One pint of 10 per cent dextrose in normal saline to which are added 50 mgms. of thiamine hydrochloride, 50 mgms. of riboflavin, 150 mgms. of nicotinic acid (300 mgms. of Vitamin C) and 0.5 gms. of pot. chloride.

Infusion 2.: Plasma to which all the vitamins in the same concentration as in infusion 1 have been added.

Since plasma is not available, we use only infusion 1, and one pint of it is given daily till the patient shows clinical improvement, the first sign of which is return of normal appetite.

The progress of the disease should be controlled by weekly icteric index estimations and Vandenberg. The case is not cured until the Vandenberg becomes negative.

NEUROSURGERY*

Dr Jacob Chandy, M.B., M.Sc., F.R.C.S. (C), F.A.C.S., F.I.C.S.

Experience in Christian Medical College Hospital, Vellore, S.I.

Neurosurgery, as a speciality, never existed in India before this department was started in the Christian Medical College Hospital, Vellore. There was no one interested enough to give full-time work to neurology or neurosurgery in our country. It was said by many outstanding physicians and surgeons that the specialist in this field may not have very much to do in India. This was so because of their experience in not encountering many neurological cases needing surgical intervention. Also, quite a few medical men in this country have been enquiring about the various clinical conditions that are included in this field. Hence this survey of the experience in Vellore for the last three and a half years may prove worth while in the understanding of the need of this work.

It was with a strange feeling that this work was started about the middle of 1949, when there was neither provision for admission of neurological patients, nor operating room facilities for neurosurgery; not to

* Presented at Regional (Tamil and Andhra areas) Conference, U.M.T. Sanatorium, Arogyavaram, December 1952.

mention the lack of assistants. But for the guidance and constant encouragement of the Director and the active co-operation and support of all the various departments in this institution, it would not have been possible to develop this department. Special mention must be made of the untiring efforts of the radiologists, anaesthetists, pathologists and nurses. The department has now a firm footing with all its branches established, such as electro-physiology, neuro-pathology, and experimental neurology.

A total of 783 operations have been performed in the last three and a half years. The steady progress can be seen in the number of operations done during the years, in the first year 143, the second 183, the third 306 and in the first five months of the fourth year, 149 cases. Of these, 391 cases had been operations on the cranium. Traumatic cases, i.e., depressed fracture skull, have been comparatively less; being 6 per cent. There were 114[1,2,3] cases of tumours of the brain, which is 34 per cent of the operations on the cranium, which shows that the occurrence of tumours is in no way less than in other countries. The study of these tumours was very enlightening. Almost all pathological varieties of intracranial tumours have been met with. Besides these neoplasmas, tuberculomas[5] formed a large series. The 21 cases of tuberculoma seen is comparable with the situation that existed in other countries 50 years ago before tuberculosis was under control. There were 6 cases of cerebral cysticercosis[6] seen, even though pigs are comparatively few in this country. This illustrates the unhygienic way people live. It is surprising that there were only 7 cases of abscess of brain, considering the amount of malnutrition and infection seen all round. These cases cannot often be distinguished pre-operatively from neoplasms, because they present only the symptoms of space-occupying lesions, with increased intracranial tension, and those of infection being absent. With the advancement of chemotherapy it has been possible to deal with tuberculoma and abscess of brain with enucleation in toto, as for encapsulated neoplasm with the use of antibiotics pre- and post-operatively. This has cut down the long post-operative course considerably in abscesses and made it possible to give cure in some cases of tuberculomas when it is not multiple. All the cases seen with traumatic lesions of the spine were 72 hours after the injury, and most after a long interval. Decompressions for this condition with complete block as well as other compression paraplegias form a total of 31. Tuberculosis of the spine manifesting various clinical pictures was often seen. There were 12 tumours[6] of the spinal cord including primary and secondary. The primary tumours of the spinal cord are the cases which give dramatic results unparalleled in most of the other operations.

The treatment of intractable[7] pain in cases of malignancy is always a constant problem in all departments. These cases are dealt with by sectioning the pain fibres, giving complete relief of pain. 95 cases of spino-thalamic tractotomies were done, most of them being for carcinoma of pelvis. Others include sarcoma hip, secondary prostatic deposits in spine, aneurysm of abdominal aorta, etc. 35 cases of carcinoma of the cheek were dealt with by doing pre-ganglionic section of the sensory root of the Trigeminal nerve. These operations are done also to aid relief of pain during radical treatments. In carcinoma of the throat, where the pain is in the distribution of the 5th and 9th cranial nerves, section of these nerves is done intracranially by the posterior approach of Dandy. There

were 10 such cases. In advanced malignancy in which the above operations are not indicated, bilateral pre-frontal lobotomy gave relief, even though, due to the change in personality, the operation had to be restricted to only a few cases. We had 8 such operations. Trigeminal neuralgia is not uncommon at all in our country. We had 32 cases and it is surprising to note the varying diagnosis that is being given to these cases by practitioners. They had preganglionic sensory root section of the Trigeminal nerve till recently. Now we are adopting a new procedure of decompressing the Gasserian ganglion. This procedure has given us immediate satisfactory results regarding the pain without causing any sensory loss. No long-standing follow-up studies have been done in these cases anywhere and it would be interesting to see the results at a later date. The glossopharyngeal neuralgia, which is a rare manifestation, was seen only in one case who got complete relief after sectioning the glossopharyngeal nerve near its exit by posterior approach.

The pains of causalgia, phantom limb, vascular insufficiency and intractable dysmenorrhoea have been relieved by regional sympathectomy. 51 such operations had been done with immediate good results post-operatively.

The treatment of hydrocephalus had been a great problem not only for us but in every neurological clinic. We have done various types of operations for 17 cases and so far it is not possible to advocate any one operation with any confidence.

It is not exaggeration when one says that all varieties of neurological diseases are seen in this country and the more baffling ones for diagnosis one sees too often. Two cases of craniosynostosis for which the Morcellation operation was done with good results; one of them was seen after 2 years.

Regional ablations of nociferous cerebral cortex in cases of localised cerebal seizures were undertaken after the electro-physiological laboratory started functioning. Cortical ablation was done for other conditions also. Two cases of hemispherectomy were done for infantile hemiplegia. 130 bilateral prefrontal lobotomies were done in cases of longstanding mental diseases. Our impression is that all of them had some benefit though only about one third could go back to useful active life in society. Complete follow-up studies are only just being undertaken, and no accurate result can be given now.

It will take some more time for physicians to realize the importance of herniated disc[9] as a causative factor in cases of sciatica. We had only 25 cases operated for the above condition.

Meningocoeles and meningo-encephalocoeles are as common in our country as elsewhere. There were 26 cases. Surgical intervention for hypertension[10] is similarly not recommended easily by physicians. Only 13 cases were dealt with and all of them were either stage 3 or 4; too far advanced to expect much relief. However, the immediate effect was satisfactory. We do bilateral throco-lumbar sympathectomy from T4 to L2, both inclusive.

Very few cases with peripheral nerve lesions were seen most of which were irreparable.

Orbital tumours were a very interesting series because of their varied pathological entity. There were 18 such cases. Lateral wall decompression was done in 6 cases of exophthalmos other than tumours.

Scalenus anticus and cervical rib syndromes were not uncommon. We had 8 cases all of which got relief after scalenus anticus section.

This is only a brief survey of an important variety of cases dealt with surgically. Much has to be done, and yet more to be learnt. Extensive clinical and experimental investigations are needed particularly in neurological disorders. Any speciality department can only function with the active co-operation of practitioners. We can only investigate, diagnose and give immediate therapy, surgical or otherwise, but this has to be followed up by practitioners themselves.

REFERENCES

1. CHANDY, J. *Clinical Survey of First Hundred Verified Brain Tumours* (in press).
2. CHANDY, J. *Early Signs and Symptoms of Brain Tumour. Journal of Indian Medical Association.* 19: 35-36. 1949.
3. CHANDY, J. *Intracranial Tumours. Indian Medical Record.* 71: 81-85. 1951.
4. CHANDY, J. and ISAIAH. P. *Tuberculomas of the Brain. Journal of the Indian Medical Association*; 21: 239-242. 1952.
5. CHANDY, J. and ISAIAH, P. *Clinical Manifestations of Cysticercosis of the Brain. The Indian Journal of Surgery.* 14: 53-56. 1952.
6. CHANDY, J. *Tumours of the Spinal Cord. The Journal of the Christian Medical Association of India, Pakistan, Burma and Ceylon.*
7. CHANDY, J. and ISAIAH, P. *Spinothalmic Tractotomy for relief of Intractable Pain of the Carcinoma of Pelvis,* 87: 87-95. 1952.
8. CHANDY, J. *Assessment of Sympathectomy in Various Clinical Conditions. Indian Medical Gazette* (in press).
9. CHANDY, J. *Sciatica. The Antiseptic.* 1950. 47: 169-172.
10. CHANDY, J. *Hypertension with Reference to its Surgical Treatment. Journal of Indian Medical Association.* 21: 53-55. 1951.

A FLUID BALANCE CHART AND A SIMPLE SCHEME FOR ESTIMATING SALT AND WATER NEEDS IN SURGICAL PATIENTS*

F. I. TOVEY, F.R.C.S.

Holdsworth Memorial Hospital, Mysore

DURING recent years surgeons have become more and more aware of the need for accurately maintaining the water and electrolyte balance in surgical patients. With new discoveries the problem has become increasingly complicated, and this is an attempt to provide a simple method of estimating salt and water needs which can easily be understood by junior doctors and internes. In addition, it has been considered important that the fluid balance chart should be simple enough for a busy nursing staff to fill in with the minimum of trouble.

A mixed depletion of sodium and water is most commonly encountered, but an appreciation of the underlying mechanisms is more readily attained by considering pure water depletion and pure salt depletion separately.

* Presented at the Nilgiris Medical Conference, Kotagiri, on May 6, 1953.

PURE WATER DEPLETION (PRIMARY DEHYDRATION)

The unavoidable daily water loss for a 70 kilo man is 1500 m. l. This is made up of 1000 m. l. from vaporization (500 m. l. from the skin and 500 m. l. from the lungs) and 500 m. l. of urine. This urinary output of 500 m. l. is the minimum output required for the body to excrete the products of nitrogen metabolism. An average 70-kilo adult passes normally 1500 m. l. urine a day and this should be the output to be aimed at in surgical patients. This gives a basic water requirement of 2,500 m. l. a day (1000 m. l. vaporization plus 1500 m. l. urine). If the patient has impaired renal function as shown by a persistently low S.G. of urine, this figure has to be increased. It must be remembered that dehydration itself may be a cause of renal impairment. In addition to the losses, if a patient is sweating he may lose up to 500 m. l. an hour. A patient with pyrexia but not visibly sweating will lose an additional 500 m. l. in a day from insensible perspiration.

The signs and symptoms of water depletion are thirst, dry tongue and oliguria. Mental impairment, circulatory collapse and haemoconcentration are late. The degree of the water deficit may be gauged clinically from Table No. 2. Pure water depletion rarely occurs clinically but may arise when the water intake is inadequate and there is no parallel loss of salt in the secretions.

PURE SALT DEPLETION (SECONDARY DEHYDRATION)

This occurs when salt containing fluids are lost from the body and replaced by water only. It is the sodium ion which is the important factor. A 70 kilo man passing 1500 m. ls. of urine will lose 6-9 gm. of salt a day (1 litre of urine contains 4-6 gm. salt). If he is sweating he will lose 3 g. of salt in each litre of sweat. Fluid lost from the intestinal tract by vomiting, suction, fistulae or diarrhoea contains sodium equivalent to 6 gm. of salt per litre. The signs and symptoms of pure salt depletion are lassitude, fainting, circulatory collapse, nausea and vomiting. The patient has a moist tongue and does not complain of thirst. The nausea and vomiting may be misleading as in cases of pyloric stenosis due to duodenal ulcer with frequent vomiting. The vomiting in these cases may be due to the salt deficiency and not due to the organic stenosis. Correction of the salt deficiency will rapidly bring about a cessation of the vomiting.

TABLE I

History	Pure Water Depletion	Pure Sodium Depletion
	Diminished water intake	Excessive output of secretions with continued water intake
Thirst	Marked	Absent
Vomiting	Absent	May be three plus
Cramps	Absent	May be three plus
Orthostatic fainting	Absent till late	Marked
Blood pressure	Normal till late	Fall three plus
Urinary volume	Scanty	Normal till late
Urinary NaCl	Often plus	Usually absent
Haemoconcentration	Slight	Three plus

METHODS OF ESTIMATING SALT REQUIREMENTS

Plasma sodium or plasma chloride estimations

These may be misleading and give an inaccurate impression of the total deficit. Patients with predominantly a pure water deficit may give false high values. Patients who have been vomiting with a resultant loss of chlorine ions give a high plasma sodium and a relatively low plasma chloride. On the other hand a patient who has diarrhoea or a post-pyloric fistula is losing sodium bicarbonate and may have a low plasma sodium and high plasma chloride. Thus in practice one finds isolated readings of little help, though in difficult cases daily serial estimation may be of very great value.

Estimation of initial salt loss

A very good estimate can often be made clinically from a knowledge of the type of fluid lost and a rough estimate of its amount. This can be supplemented by reference to Table II and usually a fairly correct figure can be arrived at.

TABLE II
(From Marriott, Ref. No. 1)

CONDITION	CLINICAL STATE		DEFICIT FOR 70 KILO MAN
Pure water depletion	*Slight*	Definite thirst. Nil else.	1½ litres water.
	Moderate	Thirst two plus. Dry mouth. Oliguria.	4 litres water.
	Severe	As above plus mental and physical impairment.	5-10 litres water
Pure Salt depletion	*Slight*	Slow or absent urinary chloride. Lassitude.	36 G. salt (4 litres N. saline)
	Moderate	Giddiness, anorexia, nausea, vomiting. Absent urinary chlorides Fall in B.P. but systolic over 90 m.m.	54 G. salt (6 litres N. saline)
	Severe	Systolic B.P. below 90 m.m.	54-90 G. salt (6-10 litres N. saline)

Estimation of day to day need during replacement therapy

A profit and loss account is kept on the fluid balance chart and from this the need for the next 24 hours is estimated. This figure is checked by reference to the urinary chloride estimations which are made at least twice a day and preferably every time the patient passes urine.

FANTUS TEST FOR ESTIMATING URINARY CHLORIDES

The requirements are a small test tube, a fountain pen filler, 20 per cent pot. chromate, 2.9 per cent silver nitrate, and distilled water for rinsing the pipette.

Take 10 drops of urine and add 1 drop of pot. chromate.

Add silver nitrate drop by drop until the colour changes from yellow to brown.

Subtract one from the number of drops. The resulting figure is equivalent to the number of gms. of salt/litre present in the urine.

URINARY CHLORIDES AS A GUIDE TO STRENGTH OF SALINE REQUIRED

If all the fluid is being given parenterally then one is rarely wrong in making the choice of fluids thus:

1. Urinary chlorides absent.	Give normal saline (9 gm. salt/litre).
2. Urinary chlorides 1-5	Give ½ normal saline (4.5 gm. salt/litre) in ½ normal glucose, or alternate bottles of N. glucose and N. saline.
3. Urinary chlorides 5 plus	Give one-third normal saline (3.0 gm. salt/litre) in two-thirds normal glucose, or one bottle of N. saline to every bottles of N. glucose.

In children one-fifth N. saline, four-fifths N. glucose is probably safer than one-third N. saline in two-thirds N. glucose. This latter fluid for adults is the one which is used in greatest quantities. 2½ litres a day provide the exact fluid and salt requirements (7½ gm.) of a 70 kilo man unless he is sustaining any abnormal fluid or salt loss.

A patient will tolerate one-half or one-third N. saline by mouth if it is possible to give it by this route.

LIMITATIONS OF URINARY CHLORIDE TEST

This test is of great value in keeping a check on the patient's salt balance during the day and will rarely lead one astray provided the following points are remembered.

1. A 'false-negative' may be obtained due to salt retention following surgical trauma or anaesthesia and sometimes for a while following a period of sodium depletion. Likewise a low figure may be found during a water diuresis and in chronic nephritis.

2. A 'false-positive' may be obtained when sodium loss has been markedly in excess of chloride loss (*e.g.*, diarrhoea, small bowel fistulae, small bowel decompression with a Miller-Abbott tube). Likewise during infusion of normal saline a temporary high figure may be found. Another cause of a 'false-positive' is Addison's disease.

Because of this salt retention which occurs for 24-48 hours post-operatively it is wise to give N. glucose only, unless the patient is salt depleted during the first 24 hours, and no stronger than one-third N. saline and two-thirds N. glucose during the second 24 hours post-operatively.

SPEED OF CORRECTION OF SALT DEFICIT

If the systolic B.P. is below 100 mm. Hg. give the first bottle (500 c.c.) in 10 minutes, the second in 15 minutes, the third in 20 minutes and the

fourth in 30 minutes and continue at 80-100 drops per minute until the B.P. is over 100 m.m.

If the initial B.P. is greater than 100 mm. per Hg. systolic the depletion should be corrected over one, two or three days. It is a sound general rule not to give more than 5 litres of fluid in any one 24 hours unless circulatory collapse is present.

If there is marked circulatory collapse one often finds the veins in spasm and it is difficult to give the fluid as rapidly as suggested. One may safely inject slowly 1-5 c.c. of 1 per cent procaine (at the rate of 1 c.c. every 20 seconds) into the vein and the relief of the spasm has to be seen to be believed. In a similar way one may add 10 c.c. of 1 per cent procaine to 500 c.c. of intravenous fluild quite safely. This will not cause toxic reactions if more than 3 minutes is taken to run it in. (For long toxic reactions the antidote is an intravenous barbiturate.)

DANGERS OF SALT OVERLOADING

These are well known and need only to be mentioned briefly. The kidneys can deal with almost any amount of excessive water but not with any great excess of salt. This excess of salt is retained and leads to circulatory overloading with a rise of venous pressure, pulmonary and peripheral oedema.

EXPLANATION OF CHART

The front side of the chart is self-explanatory. The column D on the output side is kept separate from the column C. This enables one to remember that if the column D shows a heavy loss, the urinary chlorides may be high even when the plasma sodium may be low. This is due to the loss of sodium bicarbonate in the intestinal fluids and the excretion of ammonium chloride in the urine. In this case the patient needs extra salt.

On the back side is a profit and loss account for water and salt. The deficit in terms of water and sodium (as NaCl) is entered at the top of the 'beginning of the day' column and to it is added an estimate of the water and sodium loss for the next 24 hours. (This is normally just a little less than the loss for the previous 24 hours.) From the total one assesses the patient's salt and water requirement for the next 24 hours.

At the end of the day the position is reviewed and a positive and negative balance obtained which is carried forward to the next day.

Blood, plasma and vitamin requirements

A daily estimation of Hb. per cent or haematient reading and of plasma proteins (copper sulphate drop method) is very helpful. If the Hb. per cent is low for the patient blood is indicated and if the plasma protein is below 5.5 g. per cent plasma or protein hydrolysate should be given. (oedema level = 5.0 g. per cent).

In addition an adequate intake of vitamins may be added to the parenteral fluids.

POTASSIUM LOSS

A patient taking nothing by mouth and on suction and intravenous fluids loses 2-4 gm. of salt a day. This amount is increased by excessive sodium replacement. This loss becomes important after the third day

and if the treatment is continued some form of potassium replacement should be initiated.

A patient with potassium deficiency shows apathy and disorientation and often a persistent abdominal distension or ileus. Later there may be convulsions or muscular twitchings and the heart may stop in systole.

The diagnosis is best made on clinical grounds by recognising the circumstances which lead to potassium loss and by anticipating a deficiency. In established potassium deficiency the plasma potassium may still be high and E.C.G. changes only reflect the plasma level.

An overdose of potassium is as dangerous as depletion leading to cardiac arrest in diastole. To avoid this a diuresis must be established before commencing any potassium replacement. One should give potassium chloride either by mouth or in the intravenous or subcutaneous fluid. Many prefer the latter of the parenteral routes. Give 2-3 gm. of potassium chloride daily to cover the daily urinary loss plus 1 g. of potassium chloride for every litre of gastric aspiration. Not more than 1.5 g. in 4 hours should be given parenterally.

It should be remembered that fruit juices contain a large amount of potassium and may be given prophylactically if the patient is taking fluids by mouth.

ACIDOSIS AND ALKALOSIS

There is no need to worry about this. If the loss of intestinal juices is from the stomach an alkalosis may develop, and an acidosis if the loss is from lower down. In either case this is corrected by restoring the salt and water balance.

VALUE OF RECTAL DRIPS

For many post-operative cases with no initial salt loss a rectal drip is invaluable for the first two or three days. If the drip is started either on the theatre table or immediately on returning to the ward before the patient comes round from the anaesthetic 5 pints of tap water can be run in two or three minutes and will be retained. Two hours later a slow rectal drip of tap water at the rate of 5 pints in 24 hours can be started. There is no point in giving salt or glucose per rectum as there is no satisfactory evidence that either is absorbed to any degree.

CALCULATION OF DRIP RATE

If the number of litres required to be given in 24 hours is multiplied by 12 this gives the approximate number of drops per minute. This rate may be slowed or quickened as indicated from time to time.

I wish to acknowledge my indebtedness to Dr Geoffrey Tovey, Director, S. W. Regional Blood Transfusion Service, England, who first worked out this scheme with me and has suggested many modifications in the light of experience during the last four years.

REFERENCES

1. *Water and Salt Depletion.* Marriot. *Brit. Med. Journal.* 15:2;47, 8:3:47, 15:3:47.
2. *Companion Surgical Studies. Ian Avid* (*Livingstone*), pages 669-670.
3. *Rapid test for plasma chlorides. Proc. of Staff Meetings of Mayo Clinic,* Vol. 25 No. 9, 26-4-1950, pp. 108-114.

HOLDSWORTH MEMORIAL HOSPITAL, MYSORE CITY

DAILY FLUID CHART

NAME.....24 hrs. beginning 8 a.m.....

SPECIAL NOTE:

Enter all amounts in ounces or ccs. as indicated and in ordinary figures.
Do not use Roman numerals. 28 ccs.=1 oz.

TIME	INTAKE				OUTPUT			
	Intake by Mouth ozs		Intravenous or Rectal Drip ccs.		Vomit or Gastric Suction ozs	Faeces or Fistula	Urine	
	Amount	Type	Amount	Type			ozs	S.G. Chlorides
8 a.m.								
9								
10								
11								
12 noon								
1 p.m.								
2								
3								
4								
5								
6								
7								
8 p.m.								
Day Totals	ozs		ccs		ozs		ozs	
9 p.m.								
10								
11								
12 midnight								
1 a.m.								
2								
3								
4								
5								
6								
7 a.m.								
Night Totals	ozs		ccs		ozs		ozs	
TOTALS for 24 hours ending 8 a.m.	ORAL ozs		By I.V. or Rectal Drip ccs		Vomit or Gastric ozs	Faeces or Fistula ozs	Urine ozs	
Date	ccs. A		ccs. B		ccs. C	ccs. D	ccs. E	

1 oz	=	28 ccs	15 ozs	=	420 ccs
2 ozs	=	56 ccs	16 ozs	=	448 ccs
3 ozs	=	84 ccs	17 ozs	=	476 ccs
4 ozs	=	112 ccs	18 ozs	=	504 ccs
5 ozs	=	140 ccs	19 ozs	=	532 ccs
6 ozs	=	168 ccs	20 ozs	=	560 ccs
7 ozs	=	196 ccs	1 pint	=	560 ccs
8 ozs	=	224 ccs	2 pints	=	1120 ccs
9 ozs	=	252 ccs	3 pints	=	1680 ccs
10 ozs	=	280 ccs	4 pints	=	2240 ccs
11 ozs	=	308 ccs	5 pints	=	2800 ccs
12 ozs	=	336 ccs	6 pints	=	3360 ccs
13 ozs	=	364 ccs	7 pints	=	3920 ccs
14 ozs	=	392 ccs	8 pints	=	4480 ccs

(Approximate Figures)

FLUID BALANCE

Beginning of Day	Water	Salt
Yesterday's balance ±	.....ccs.....	G
Est. loss juices for today	.... ccs.....	G
Lungs and Skin	1,000 ccs.....	G
Add 500 if pyrexial	..... ccs.....	G
Urine (normal 1,500 ccs.)	.....ccs.....	G
TOTAL FLUID NEEDED	ccs.....	G

Give therefore :

a. By mouth ccs./hr. ccs./24 hrs.

b. I.V. Litres/24 hrs.

Expressed as 1. N glucose
2. N saline
3. ½ N saline
4. N/3 saline

DRIP RATE (litres × 12) . . . drops/min.

Hb.....H'crit.....

End of Day	Water	Salt
Yesterday's balance ±	.....ccs.....	G
Output Juices (C + D)	.....ccs.....	G
,, Urine (E)	.....ccs.....	G
Skin and Lungs	1,000 ccs.....	G
Add 500 if pyrexial	.....ccs.....	G
Excessive sweat (500 ccs./hr.)	.....ccs.....	G
TODAY'S TOTAL USAGE	ccs	G
Minus total intake (A+B)	ccs	G
Carry forward, balance ±	ccs	G

Plasma Proteins.....

RECENT TRENDS IN OBSTETRICS AND GYNÆCOLOGY*

ANNA RUTH KORTELING, M.D.
Punganur, S. India

DURING nearly thirty years of practice in India and the U.S.A. we have been privileged to witness the great advances that have been made in the fields of science, particularly with reference to medicine. The advent of the anti-biotics, the 'Wonder Drugs', has revolutionized the treatment of certain diseases and pathological conditions. Maternal mortality rates have dropped from seven per thousand live births to less than one in some clinics, and greater attention is being focused on fetal salvage. New diagnostic aids and new treatments have been introduced.

Advances in anesthesiology and safer anesthetic agents, better understanding of fluid and electrolyte balance, adequate replacement of blood loss, endocrine substitution, and control of infection have made more radical surgery possible, and surgical procedures practicable in cases previously considered inoperable. The concept of pre-invasive carcinoma, intra-epithelial, or carcinoma-in-situ, offers hope of attack in really early malignant change. The development of endocrinology and its application to gynæcological problems is receiving considerable attention. Investigation of infertility and biological tests for diagnosis of pregnancy, from Ascheim-Zondek and Friedman to the rapid rat and frog test, are regular procedures. Analgesia in obstetrics is well-established, and Family Planning a part of most obstetrical and gynæcological services. In recent years there has been a re-emphasis on the treatment of the patient as a whole, recognizing the interrelation of body, mind, and emotion in pathologic states, and the importance of a psychosomatic approach to various problems. While formerly obstetrics and gynæcology were regarded as two specialities, they are now usually combined in one service, and it is difficult to consider one without the other.

It is the purpose of this paper not to treat each of these subjects exhaustively, but to mention briefly recent trends that we have found applicable to our practice in a small rural hospital.

A sterile marriage is a problem in any country, but in rural India it often means tragedy, when a barren wife is set aside and her place taken by another. A husband and wife who present themselves with the complaint of primary or secondary sterility are subjected to a complete physical examination. There may be decreased metabolic function in one or both partners or other endocrine disturbances, detected by basal metabolism rate, vaginal smears, or endometrial biopsies. Rectal basal body temperature charts are supplementary evidence of the presence or absence of ovulation. Often vaginismus or genital spasm in the female is a factor, and the psychic aspects of sterility cannot be ignored.

Pelvic examination is followed by a Huhner test made after three to five days of abstinence. A fair idea of the amount of the ejaculate, number of spermatozoa, motility and abnormal forms can be obtained from this test. If it is negative, we ask for an ejaculated specimen for examination.

* Presented at Kodaikanal Medical Conference, May 1953.

In our experience almost twenty-five per cent of infertility is due wholly or in part to the male partner. In almost every case of azoospermia, a history of gonorrheal infection is elicited. When oligospermia, less than sixty million per c.c. is present, relative infertility is the result.[2] There is a steady increase in the use of the testicular biopsy as a diagnostic procedure in instances of infertility in men. Perhaps its most important contribution is the screening out of patients in whom no response can be expected to any of the available therapeutic procedures.

When biopsies are obtained from some patients, who have been treated with gonadotropic hormones, androgens, or thyroid substance, and vitamins, it may be found that their testes lack germ cells completely or most of their tubules have been destroyed by peritubular fibrosis.

The Rubin or tubal patency test is especially important in secondary sterility, when the Fallopian tubes may be kinked or occluded by an old inflammatory condition. Therapeutically, we use this test in successive months before the expected day of ovulation, with two hundred mm. of mercury the limit of pressure exerted.

On occasion there is a mechanical block to conception. Dilatation of an inelastic cervix, and curettage of a hyperplastic endometrium may be required. Correction of a retrodisplaced, retroflexed uterus, removal of a thick mucous plug from the cervical canal, cauterization or electrocoagulation of a chronic cervicitis, or removal of an occluding polyp, may constitute all the treatment necessary.

A patient presented herself to us after eight years of marriage with a history of having received many different medicines and 'injections' for sterility. Examination revealed the presence of a very small entroitus surrounded by a hymen so tight that normal coitus was impossible. She promptly conceived after a minor dispensary procedure, and now has three lovely children.

Many methods for determining the occurrence of human ovulation have been devised[3], such as the use of alterations in body temperature, changes in the cervical mucosa, variations in the character of cells secured from vaginal smears, tissue from endometrial biopsies, electrometric determinations, hormonal assays, and more recently the rat hyperemia test. Using the last-named, Farris has developed a formula for determining the optimum time for coitus or insemination, for conception.

1. Use three consecutive menstrual cycles to secure adequate average of the length.

2. Inseminate, or recommend coitus, following five day's abstinence, for three consecutive days, beginning with the second day before the midcycle day.

3. If conception fails after four months' trial, advise three consecutive days starting on the third day previous to midcycle.

4. If conception fails, advise three consecutive days from one day before midcycle day.

Using vaginal smears for determination of ovulation time, we inseminated one young woman with her husband's semen on the first day before, and again on the second day following, the expected date, and she became pregnant. In her case, we had been unable to find any physical reason for infertility in four years of marriage. She has recently been delivered of her second child, conceived in the normal way.

It would be interesting to get the reaction of this body to the idea of artificial insemination, using donor semen. We have not advocated it, although we have been approached with a request for it by a highly intelligent and educated couple. The emotional and perhaps the legal factors involved seem rather difficult to overcome, and the necessary secrecy would be almost impossible in a small community.

The use of a tight-fitting plastic cervical cap is a convenient procedure in insemination. With a syringe and a needle bent at an angle, the specimen is injected into the cap after it has been placed in position.

Treatment of amenorrhea per se is not always necessary.[4] In individuals who feel that they are abnormal and allow this to become a source of emotional anxiety, a sense of well-being and health is given by cyclic induction of bleeding. This can be induced by adequate estrogen and progesterone stimulation in practically every patient with an intact uterus and endometrium, whether or not the ovaries are present. Amenorrheic women who desire children should be treated, because treatment occasionally establishes better equilibrium between the pituitary and ovarian function, and if ovulation does occur, even though infrequently, the chances of conception are improved. Low-dosage irradiation, in secondary amenorrhea, of the pituitary and the ovaries is advocated by a few gynæcologists, in spite of the fact that its mode of action is unknown. It seems impossible that the low dosage employed could cause injury to the germ plasm, the objection most often given to its use, but the burden of proof of its efficacy is on those who use this treatment. We have had no experience in its use.

It has been established that the majority of abortions are due to the fact that the fertilized ovum is defective, either diseased or maldeveloped.[5] It cannot be said the maternal environment itself is responsible for the abnormal ovum, which apparently is due to its intrinsic germ plasm quality. Nature endeavors to discard imperfect products of conception. Some patients bleed early in pregnancy, and then go on to produce a normal full-term baby. Such bleeding is evidently not due to any defect of the ovum, and unless the patient develops uterine cramps, a few days' rest will usually clear up the symptoms. There is no satisfactory way of determining the life or death of the fetus. If the bleeding is caused by damage to the ovum, abortion is desirable. Hormone therapy, either progesterone or large doses of estrogen, may delay an abortion, but will not prevent it. If the bleeding is extra-ovular, the pregnancy will probably proceed to term.

If an abortion threatens, rest in bed is necessary. If pain and cramps develop, no medication is given, and the patient allowed to abort spontaneously.[5] If there is excessive bleeding, or pieces of tissue are passed, a curettage is indicated. Any pelvic disease must of course be ruled out. Poor thyroid function is one of the common causes of abortion and the one most easily corrected by proper therapy. If the basal metabolism rate is not on the positive side, it is well to start thyroid therapy even before the next conception, as damage possibly occurs at that time. The husband should also be examined for health and fertility.

The problem of therapeutic abortion is becoming more infrequent as the tendency in recent years has been to treat the disease and leave the pregnancy alone. Many conditions, such as tuberculosis and heart disease,

which used to be considered indications for therapeutic abortion are no longer believed to be such. Active tuberculosis can be treated during pregnancy, with no danger to the child, if proper precautions are taken.

Hereditary mental deficiency is more a sociological and legal problem than a medical one. Hyperemesis is a disappearing disease, and with proper treatment should not be an idication for abortion.

A great deal has been said recently about the effect of Rubella and other viral diseases upon the embryo and fetus[6], if contracted during the first trimester of pregnancy. The diagnosis is often vague and may be abused, and as larger studies have become available, in different epidemics, the percentage of reported abnormalities, such as cataract, cardiac disease, deafness and central nervous system damage, has been revised downwards. Schick suggested that fetal infection by Rubella or other viruses might occur in immune mothers. Pregnant women should avoid contact with patients having Rubella or possibly other virus diseases. In some clinics, patients are offered a choice between therapeutic abortion or continuing the pregnancy. In others, prophylaxis is used, as the injection of normal immune serum globulin (gamma globulin from pools of normal human serum) ten c.c. every five to seven days for two doses to women exposed to German measles in first trimester. Considering fetal abnormalities as a whole, virus diseases per se play only a small role in etiology.

Bleeding or threatened abortion does not appear to increase the incidence of congenital anomalies. Neither does chronic maternal illness constitute a threat to normal fetal development. This whole probelm needs much further study, and investigation.

Non-malignant pelvic tumors are not a contraindication to pregnancy. Uterine fibroids grow rapidly during pregnancy and tend to involute after delivery.[5] Many women pass successfully through pregnancy with fibroids of varying size. A symptomless fibroid is of importance only if it is capable of obstructing the birth canal, when Caesarean section becomes necessary. Myomectomy should be deferred until some months after the termination of pregnancy. Operation during pregnancy is inadvisable, because of the difficulty of hemostasis and the danger of interrupting the pregnancy. Fibroids that cause pain and pressure symptoms because of their location may be treated symptomatically, and as there is no real danger to the patient, surgery is rarely indicated. Not more than one in three women with fibromyomas ever requires surgery.[7] Asymptomatic small and moderate sized fibromyomas may remain until the menopause, when all up to about ten cm. in diameter will shrink. The risk of fatal malignancy in fibromyomas is almost negligible.

On the other hand, any ovarian cyst that causes acute symptoms during pregnancy should be removed immediately. Many small cysts will disappear,[5] and a large corpus luteum may often be misleading. If a tumor is larger than an orange or five cm. in diameter, or is a solid ovarian tumor, operation should be considered, preferably after the fourth month, by which time the placenta has developed the function of the corpus luteum. One of our patients, five months pregnant, operated for a necrotic ovarian cyst twisted on its pedicle, aborted within a week following surgery.

The general improvement in maternal morbidity and mortality rates during the past few years is due to many factors, of which perhaps the

most important is ante-natal care.[5] A large proportion of obstetric problems occur in patients who have had inadequate or no pre-natal care, especially in the toxemia group. Many cases of severe premature separation of the placenta occur in patients who have developed an unobserved pre-eclamptic toxemia. Dystocia is more common in the patient in poor physical condition, and post-partum hemorrhage is more common in this group, which comprises the majority of patients who come to us from outlying villages.

The importance of diet is well understood, but practical application to the need of patients in a famine area is often next to impossible. It is here that the milk and cereals and vitamins donated by various relief agencies are being utilized to great advantage.

Proper regulation of diet begins with weight restriction, when gain is due to fluid retention. It is from this group that pre-eclamptic toxemia arises, and once it has appeared clinically, it is an irreversible disease until the pregnancy is terminated. Fluid retention can be prevented in most cases by a low-sodium diet. Ideal treatment of any pregnant woman who shows a rapid and excessive weight gain is hospitalization. The optimum diet is high in protein and low in fat and sodium, with some form of iron daily, as in addition to hemodilution, the pregant woman tends to develop anaemia.

Garrett[8] postulates that practically all of the clinical findings in eclampsia and severe pre-eclampsia can be traced to disturbed mineral metabolism resulting from an excessive activity of the adrenal steroids, and suggests that these steroids may be the long-sought 'toxin' in the toxemias of pregnancy.

In prevention of eclampsia one should consider the electrolyte changes which favour the disease. There is a disturbance of intracellular physiology. Sodium retention and abnormal increase in the elimination of potassium favour the storage of water. It is also said that a chloride deficiency induces some of the same changes as those resulting from potassium deficit. Calcium has a capacity to prevent intracellular shift of potassium. Phosphorus is an essential part of the glucose utilizing mechanism; and glucose during its conversion into glycogen causes potassium to enter body cells and promote the excretion of sodium. A high potassium intake also promotes the elimination of sodium. The ammonium salt of chloride as well as calcium tends to counteract the changes favouring the development of toxemia. Those ions which favour such an exchange are clinically useful in the prevention and treatment of the toxemias of pregnancy.[8]

Treatment of mild toxemia with bed rest, low sodium diet, and mild sedation still gives consistently good results. In convulsive toxemia, morphine, barbiturates, and magnesium sulphate are the three drugs in most common use. The addition of veratrim viride[9] to the armamentarium for reduction of hypertension is still controversial, but is highly recommended by some, who claim that poor results are due to the injudicious use of the drug, which produces marked blood pressure fall, oliguria, and other side effects.

A new diagnositc aid is the determination of the Flicker Fusion Threshold[10] in pregnancy, by which it is claimed that toxemia can be predicted before clinical signs are evident.

In judging a pelvis and possible feto-pelvic disproportion, we have given up external pelvimetry, with the exception of the diameters of the outlet. Instead, we rely on an appraisal of the size, shape, and contours of the pelvis gained by vaginal examination after the fourth month and by the Hillis test late in pregnancy.

X-ray pelvimetry[5] has increased in use in recent years, but routinely it is unnecessary and not indicated. It is of value, however, in the primipara with an unengaged head, or in abnormal presentations, or in questions of disproportions. The final solution lies in the labour itself. The x-ray film gives no accurate idea of the size of the fetal head or of the efficiency of labour, both of which are usually as important as the size of the pelvis.

A true test of labour is judged from the time the cervix begins to dilate until the patient has had several hours of efficient labour[5]. It is easy to be deceived by false labour or inefficient contractions. If the cervix is dilating and the uterine contractions strong, we can judge true lack of progress, making due allowance for vertix posterior and other abnormal presentations.

Bleeding in the third trimester continues to be an obstetrical hazard, and each case must be individualized.[5] The tendency is to treat placenta previa conservatively. However, the patient should be in bed in a hospital, blood typed and matched, and donor blood ready. If immediate delivery is necessary, its type is dependent upon the kind of previa found, and upon the condition of the cervix.

The treatment of premature separation of the placenta causes more controversy than that of placenta previa.[5] The three factors to be considered are the amount of hemorrhage, size and condition of the baby, and the general health of the patient. Blood replacement is important, and the patient must be in reasonably good condition before any treatment is attempted. The use of abdominal binders and the vaginal pack has largely been discarded.

Schneider's [11, 12] description of the rupture of the basal (decidual) plate in abruptio placentae, as a pathway of auto extraction from the decidua into the maternal circulation, offers an explanation for the hemorrhagic diathesis resulting in 'fibrin embolism' seen in severe and some moderate cases. The hemorrhagic state is due to depletion of fibrinogen, which in turn may be due to the liberation of thromboplastin into the maternal blood stream. 'Fibrin embolism' has recently been described as a disseminated deposition of fibrin, which can be brought about spontaneously only by an active autoextraction of tissue substance into the maternal circulation, and which may, if extensive, cause fatal occlusion of circulation. The decidua, which is rich in thromboplastin, is degenerating and necrotic at the location of a retroplacental hemorrhage. Tissue juices and tissue debris mixed into the blood of the hematoma, and then escaped back into the maternal circulation could serve as the extracting medium. Should the patient survive the fibrin formation, the chemical processes initiated may have quantitatively consumed all circulating fibrinogen with a resultant fibrinopenia and consequently, failure of the clotting mechanism. The possibility of uncontrollable hemorrhage is now very real.

Treatment[12] of this serious complication is delivery accomplished before there is depletion of patient's blood coagulation mechanism to an irreversible low degree. Caesarean section may be necessary if vaginal delivery is not imminent. Blood transfusions and blood plasma must be

given as quickly as needed and in amounts sufficient to replace blood loss and to help restore whatever disruption of the blood coagulation mechanism might have occurred. Termination of pregnancy is not always a guarantee of the cessation of the pathological process. There may be a focus of thromboplastin remaining in a decidua adherent to an old retroplacental site, which is forced into the peripheral circulation by the postpartum involution of the uterus. Fortunately, we see cases of this severity very infrequently, for transfusions are still a major problem. Valuable time is lost in either finding a donor, typing and cross matching of blood, or in sending to the nearest available blood bank for suitable blood.

Rupture of the marginal sinus may be the cause of steady bleeding throughout labour,[5] but usually not sufficient to cause alarm or to interfere with the normal course of labour.

Certain marginal placenta previas and premature separation of placenta, or other complications may make induction of labour desirable. There are few absolute indications for artificial induction.[5] Anyone who practises it, will sooner or later find himself in the unhappy position of wishing he had left a particular case alone. Primiparas are usually unfavourable patients for induction, and it should not be attempted on a breech presentation or in a high or unengaged head. Multiparas who live a distance from the hospital, in whom the cervix is 'ripe', that is, patulous to two fingers, and at least half-effaced, and the head engaged, may be safely induced.

If the cervix is favourable, rupture of the membranes will start a patient in labour. The combined method of rupture of membranes, followed by intravenous infusion of pitocin, five minims to one thousand c.c. of fluid with the flow limited to thirty drops per minute, is successful and efficient.[5] However, the patient must be observed personally by the doctor in attendance, and the infusion stopped as soon as active labour has started. There must be no cephalopelvic disproportion and no abnormal position if pitocin is to be used.

Postmaturity in general is not an indication for induction. Among the newer aids are radiological signs of fetal maturity.[24] The procedure is without harm to mother or child. Fetal age is determined by the position of the fetus, fetal mensuration, and fetal centers of ossification. Signs of maturity include the degree of flexion of the head, the relation of the chin to the chest wall, the crossing of the arms, and the flexion of the knees on the abdomen. The third factor, the presence or absence of ossification centers, is of importance for accurate diagnosis of fetal age before term. Diagnosis of full maturity is made on the basis of ossification of the distal epiphysis of the femur, of the proximal epiphysis of the tibia, and of the cuboid. This aid is of value when an elective Caesarean is being considered.

Cases of prolonged labour may be divided into three groups, those due to cephalopelvic disproportion, abnormal presentations, and uterine inertia.[5] There may be a combination of these, or the addition of other factors, such as the presence of an obstructing tumor. Definite cephalopelvic disproportion is treated by Caesarean section. Again each case must be studied and treated individually. There is no longer a specific length of time during which the second stage should be allowed to continue without interference. If no fetal distress is present, and the mother in good condition

three or four hours is not too long. On the other hand, when there is an indication for interference, there should be no delay.

Uterine inertia is not an uncommon complication in primiparas, or in grand multiparas.[5] Sedation for rest and sleep, six to eight hours out of twenty-four, 2000 c.c. of fluids, penicillin prophylaxis, and rupture of membranes when progress stops, are recommended treatment. In selected cases, intravenous pitocin in very dilute solution is being used, subject to the same caution and contraindications previously mentioned.

Indications for Caesarean section have not changed, but there has been a general increase in the incidence of the operation in the last twenty years. The most commonly used type is the low-flap, with either transverse or vertical incision of the uterus.[5] The classical section still has a place in placenta previa and in other cases where speed is of primary importance. The extra-peritoneal approach seems to be losing its popularity. It is a more difficult operation, more time-consuming, and seems to us rarely indicated. When a neglected case comes for help, we usually find that the fetus is dead and the mother in poor condition, so that vaginal delivery is carried out as quickly as possible, with a mutilating operation if it is necessary. It is especially in situations such as these, that the antibiotics have proved to be life-saving measures.

Treatment for rupture of the uterus[5] is of course surgical. Hemorrhage may be largely concealed, with little external bleeding. Any patient with a previous uterine scar, or any patient in whom the type of delivery would offer any possibility of rupture, should be given a uterine exploration after delivery of the placenta.

The third stage of labour continues to be one of the most dangerous periods of pregnancy,[5] as hemorrhage is one of the three leading causes of maternal mortality. Retention of the placenta after delivery is not unusual and manual removal is an accepted obstetrical procedure.

Uterine atony may be a dangerous complication.[5] Pituitrin or pitocin and ergotrate are used freely. To stop acute hemorrhage, the lower uterine segment may be grasped with a hand in the vagina, and the fundus grasped through the abdominal wall, the uterus being compressed between the two hands; or the lower uterine segment may be pressed against the promontory of the sacrum.

Packing a uterus has many disadvantages, and has largely been discontinued.[5] It prohibits the uterus from contracting down to its postpartum size, it conceals hemorrhage, giving the obstetrician a false sense of security. It may be a source of infection, and may start a fresh hemorrhage when removed. A few patients will require hysterectomy to control hemorrhage. Blood replacement before the appearance of shock is of course the treatment of choice.

In the last decade two major trends in pain relief for labour and delivery, so-called 'natural child birth', and conduction or nerve block anesthesia have been developed.[13] Neither is a completely adequate solution. Natural childbirth training does not actually diminish the intensity of labour pains, nor is it a drugless method. In the reported Yale group series, less than twenty per cent received no analgesic.

Fluhmann in 1940 stated that the agent must alleviate suffering in the parturient, must not interfere with the progress of labour, and must be safe for the baby, and the same rules hold today. Demerol, nembutal

and scopolamine, and more recently methadone with scopolamine, are frequently used. Saddle block has replaced continuous caudal in many areas because of the ease with which it can be given. It is best when employed for terminal labour, delivery, and repair. It may cause an alarming reduction in blood pressure, with danger of anoxia to the fetus. Pudendal block and local infiltration are also terminal agents. Paravertebral block is being used and favourable results have been reported. Open drop ether and chloroform is still a good choice in many small hospitals,[14] for safety and ease of administration.

We have found Family Planning rather discouraging. The majority of our patients are not capable of carrying out instructions, or cannot afford to buy the appliances we advise. We do not hesitate to suggest vasectomy in men or tubal sterilization in women for multiparity of more than four pregnancies. We prefer to do tubal sterilization on the first postpartum day, if there have been no complications. Some degree of salpingitis follows every delivery, and infection is more likely to occur after the third day.

Malignancy is too large a subject to be discussed in detail within the scope of this paper. Our experience is limited, due to the fact that we refer every patient we can to another institution, where irradiation as well as surgery is available. We endeavour to be 'cancer-minded', and are making an effort to detect early lesions. Screening of dispensary patients by means of the vaginal smear we have found to be impracticable. The effort and time careful examination of even one slide entails, makes the work load prohibitive for one person. No one will use irradiation or surgery on a smear diagnosis without biopsy confirmation. However, the smear may be of more value than biopsy in endocervical cancer, and is useful in selected cases.[15]

The treatment of cancer has expanded in recent years [16], [17] from surgery, x-ray, and radium to include anti-cancer drugs, hormones, and radioactive isotopes as the 'cobalt bomb'. Anti-cancer drugs are effective almost exclusively against lymphomas, and sex steroids act only on a few types of cancer. [16, 17, 18] They are palliative and not curative, seem to affect the environment of the tumor rather than the tumor itself. Permanent cures are still achieved largely with surgery and or external irradiation administered to patients with early lesions that have not yet metastasized widely.

If a lesion of the uterine cervix is diagnosed and treated in the pre-invasive or carcinoma-in-situ stage, the patient's chances of being cured are almost one hundred per cent.[19] Although some authorities still question the invasive potentiality of intraepithelial cancer, the Johns Hopkins group seem quite certain that the clinical course of cervical carcinoma represents only a small segment of its life history, and the greater part of its existence is spent in the preinvasive stage. Carcinoma in situ, according to them, is potentially invasive and, if untreated, may progress to clinically evident cervical carcinoma.

Surgical treatment of pelvic malignancy has been extended to include bilateral lymphadenectomy with extirpation of pelvic organs. Preoperative irradiation may or may not be done, to lessen the danger of spread by the surgical procedure itself.

Management of so-called idiopathic or functional vaginal bleeding, which we see most often in adolescent girls, is variable. Many causes

have been proposed, such as irregular shedding of the endometrium, hormonal disturbances, emotional upsets, changes in environment, and so on. Thyroid or other hormones, curettage, x-ray, radium, or even hysterectomy have all been used.

Allen and his associates have shown the presence of an unknown substance in the blood of some patients exhibiting abnormal bleeding which resembles heparin to the extent that it combines with or is neutralized by the anti-heparins, toluidine blue and protamine sulfate. In selected patients, oral toluidine blue or parenteral protamine sulfate are reported as effective treatment. [20, 21]

In gynæcological surgery, we find a change in indications and types of uterine operations performed[22]. Carcinoma must be ruled out or definitely established as a diagnosis before any treatment to the cervix. Trachelorrhaphy and amputation are now very seldom done. Cauterization and conization are accepted procedures for erosion and endocervicitis. When the electrocautery is used, Nabothian cysts can be burned out to remove the buried enlarged glands and to facilitate healing. Lacerations will heal after cauterization, and polyps can be removed with the cautery. The current trend is toward vaginal hysterectomy rather than the Manchester or Fothergill or other vaginal plastic operations, of which amputation of the cervix is a part.

In the last few years there has been a transition from the abdominal subtotal toward total hysterectomy, until today, except in the most unusual circumstances, it is considered an inadequate procedure to omit removal of the cervix.[22] The increased danger of injury to the urinary tract should not be a consideration. When, the bladder having been freed well out laterally, one uses Aldrich's [25, 26] technique of dissecting a fascial cuff from the anterior and posterior surface of the cervix, and placing the clamps on the lower part of the cardinal ligaments within this cuff and medial to the ligated uterine vessels, one can be satisfied that the ureters are safe. Among other indications for removal, the cervix is the most frequent source of genital carcinoma, and there is no reason to leave it behind.

There is a growing conviction that uterine retrodisplacement represents a variation in normal anatomy rather than a pathological entity,[22] is responsible for few if any symptoms, and is not an indication for surgery. Replacement operations are still done secondary to other surgical procedures, in which case the Webster-Baldy type with suturing of the uterosacral ligaments and advancement of the vesical reflection of the peritoneum may be done. Fundectomy or defundation operations are obsolete. Other procedures have replaced uterine suspension and similar operations for uterine prolapse.

There is an increased trend toward vaginal versus abdominal hysterectomy.[27] It is believed that this operation is less upsetting to the patient and less frequently followed by serious post-operative complications. It is the procedure of choice in conjunction with vaginal plastic operations for more satisfactory and lasting support is achieved with hysterectomy than with other procedures. It is also the surest and safest means of sterilization in women still in the childbearing age, who need vaginal platic repairs. The interposition operation is still advocated in cases where prolapse of the bladder is the dominant consideration. In general,

the symptom of pain and the finding of uterine fixation in other conditions dictate against vaginal removal of the uterus.

There is another growing tendency to remove the uterus when bilateral salpingectomy and/or oophorectomy is done.[22] Abel states that a uterus left behind has no known function, is a potential source of trouble pathologically, and may necessitate a second operation because of bleeding or pain. If some ovarian tissue is left behind, bleeding irregularities are not infrequent, and may be very troublesome.

It is becoming more clearly understood that we must distinguish between conditions that arise from organic disease, and others that may rise from mental, emotional, and functional causes.[23] We do not always fully recognize the influence and the interchange of these, one with or over the other. Emotional conditions may cause many impaired bodily functions and not be associated with laboratory abnormalities. These conditions usually predominate with states of tension and nervousness, and are associated with conditions of fatigue, fears, anxieties, family difficulties and problems.

From the patient's view-point, the symptoms of organic disease or functional disorders are the same.[23] The patient does not know how to diagnose symptoms properly, and it is the function of the physician to help her in the correct interpretation. The physician may give her symptomatic relief, and by demonstrating the cause of the complaint, help her to share in the responsibility for correcting it. The total function of the patient must be improved, physically, physiologically, and psychologically. Recurrences and complications are prevented by guidance and specific instructions to the patient, with her co-operation. Needless to say, the physician must have a complete understanding of the patient's complaints and their causes, whether physical, physiological, emotional, mental, or social.[23]

As Christian physicians, we have gone a long way toward helping a patient, when we can persuade her to put her faith and trust in a loving Heavenly Father, who will help her resolve her difficulties and find the solution to her problems. Our greatest and most rewarding task is that of making Christ known and bringing our patients to a personal knowledge and love of Him.

BIBLIOGRAPHY AND REFERENCES

1. Grody, M. H., Robinson, D. W. and Masters, W. H.: *The Cervical Cap, J.A.M.A.*, May 31, 1952.
2. Nelson, W. O.: *Interpretation of testicular biopsy, J.A.M.A.* Feb. 7, 1953.
3. Farris, E. J.: *A formula for selecting the optimum time for conception, Am. J. Ob. and Gyn.*, 63:5, 1952.
4. Barfield, W. E. and Greenblatt, R. B.: *The treatment of functional amenorrhea, Am. J. Ob. and Gyn.*, 64:5.
5. Tenney, B., Jr.: *Progress in Obstetrics, New England J. Med.*, 246:16.
6. Kaye, B. M., Rosmer, D. C. and Stein, I. F. Sr.: *Viral diseases in pregnancy and their effect upon the embryo and fetus, Am. J. Ob. and Gyn.*, 65:1, 1953.
7. Greenhill, J. P.: *1951 Year Book of Ob. and Gyn.*
8. Garrett, S. S.: *Minerals in the etiology and treatment of eclamptic toxemia, West. J. Surg.*, 59:366, 1951.
9. Alban, E. J., Jr., Dennis, M. S. and Swanson, C. N.: *Am. J. Ob. and Gyn.*, 64:1083, 1952.

10. MARTY, J. P. and HARDY, J. A.: *Am. J. Ob. and Gyn.*, 64: 1149, 1952.
11. SCHNEIDER, C. L.: *Am. J. Ob. and Gyn.*: 63: 5, 1952.
12. STEVENSON, C. S.: *Schneider et al, Am. J. Ob. and Gyn.*, 65: 1, 1953.
13. DAVIS M. E., ANDROS, G. J. and KING, A. G.: *J.A.M.A.* 148: April 5, 1952.
14. DORMAN, D. B.: *J A.M.A.*, Dec. 8, 1951: Management of abnormal presentation during second stage of labour.
15. LEMAR, J. D.: *Am. J. Ob. and Gyn.*, 63: 5, 1952.
16. NATHANSON, I. T. and KELLY, R. M.: *New Eng. J. Med.*, 246: 4, 1952.
17. *Treatment of cancer*, Editorial: *J.A.M.A.*, 149: 15, 1952.
18. LEWISON, E. F. and CHAMBERS, R. G.: *New Eng. J. Med.*, 246: 1, 1952.
19. GALVIN, G. A., JONES, H. W., Jr. and TELINDE, R.W., *J.A.M.A.*, 149: 8, 1952.
20. RUMBOLZ, W. L., MOON, C. F. and NOVELLI, J. C.: *Am. J. Ob. and Gyn.*, 63: 5, 1952.
21. LATHROP, M.S. and CARLISLE, W. T.: *Am. J. Ob. and Gyn.*, 64: 6, 1952.
22. ABEL, S.: *J.A.M.A.*, 148: 13, 1952.
23. JOHNSON, W. O.: *Am. J. Ob. and Gyn.*, 63: 5, 1952.
24. LENOIR, A.: *Gynecologia*, 133: 98, 1952.
25. ALDRICH, A. E.: *Am J.Ob. and Gyn.*, May, 1950.
26. *Ibid*, Personal communication.

PYONEPHROSIS DURING PUERPERIUM—A CASE REPORT

A. M. MATHEN, M.B., B.S.
Christian Hospital, Azamgarh, U.P.

THE patient, a Hindu woman, was admitted to the hospital with the following complaints:

1. Swelling on the left side of the abdomen.
2. Fever for 2 weeks, accompanied by rigor and sweating.
3. Difficulty in bowel movements. The stools small.
4. Loss of appetite.

History of present illness

The patient had a full term normal delivery 18 days before admission. The lochia ceased after 3 days. 8 days before delivery she had some pain on the left side. Except for this the course of pregnancy was uneventful.

There was no fever at any time.

After the delivery she noticed a large mass on the left side, which was not painful nor tender. There were no urinary troubles. She started getting fever 3 days after delivery, and the lochia stopped. After profuse perspiration she would become afebrile. She could not say whether the mass was increasing in size or not.

Past history, family history, obstetrical and menstrual history did not reveal anything particular.

Physical examination

A woman aged about 30. General appearance suggests a certain amount of emaciation. Pallor present. No cyanosis, jaundice, etc.

Abdomen: Inspection showed a swelling involving the left lumbar, hypochondric and the umbilical regions. The swelling did not move with respiration.

Palpation: The size of the swelling was roughly 8" × 6". The edges were rounded. A vague reniform shape was felt on palpation of the mass. There was no tenderness nor did the mass feel hot to the touch. The surface was smooth and the fingers could be easily insinuated under the costal margin. On percussion a band of colonic resonance could be heard across the transverse diameter of the mass.

Other systems: Nothing abnormal found.

Vaginal examination: Uterus retroverted. Os open. Fornices clear.

Temperature: 103 F. Pulse: 120. Resp: 30.

Laboratory findings: 1. W.B.C. 16000 C.m.m.
Poly. 65 per cent
Lymph. 30 per cent
L.M. 5 per cent
2. Hb. 55 per cent
3. Urine: Yellow, acid sp. gr. 1020. Slight trace of albumin present.
No sugar.
3-4 pus cells seen.

With this clinical data a provisional diagnosis of pyonephrosis was made.

Treatment

A turpentine enema was given with good result. Procaine penicillin 4 lakhs was given. Glucose 5 per cent 400 c.c. given by i.v. drip. The patient was prepared for operation. At night she was given 1 oz. of Mist. pot. Brom. with chloral.

Second day: Preoperative sedation was done by Morphine Sulphate gr. 1/8 c. Atropine Sulphate gr. 1/100. Saline with glucose 5 per cent, i.v. drip started in the theatre.

Under general anaesthesia (open ether) the abdomen was opened by a left paramedian incision. This transperitoneal approach to the kidney was chosen because of the better exposure and also because the other kidney could be visualised.

On opening the abdomen the transverse and part of the descending colon were found adherent to the mass. They were separated by gauze dissection. The contents of the peritoneal cavity were then packed off by warm sponges. On inserting a trocar and canula thick pus was found inside the mass. It was removed and an electric suction tube was inserted through the opening. Ten pints of pus were then removed. After this the kidney was cut open and it was found that only a shell of the kidney remained; the inner structure being completely wiped out. The wall was 1 cm. thick. No stones were found either in the pus or in the pelvis of the kidney. The ureter was hypertrophied. A major portion of the kidney was removed; a small portion was left behind since it was firmly adherent to the posterior abdominal wall, and on attempting to remove it by gauze dissection brisk bleeding was observed. A running suture was

passed through the edges of this, which prevented further bleeding. Tendency to oozing was prevented by applying spongostan. Sulphanilamide powder was then spread all over. The posterior peritoneum was then sutured and the abdomen closed in layers.

During the operation and afterwards a continuous i.v. drip of 5 per cent glucose with saline was administered. 3 pints were given in all. 1 ampoule of Percorten was given, and when the patient came out of the anaesthetic Morphine Sulphate gr. 1/6 with Atropine Sulphate gr. 1/100 was repeated. Calcium gluconate 10 per cent, 10 c.c., was given through the drip. In the evening at 6 p.m. the temperature was 97° F. Pulse 160. Respiration 24. Patient was perspiring profusely.

Third day: The patient slept well at night, after another Morphine Sulphate gr. 1/8. In the morning saline and glucose 5 per cent were given by i.v. drip. She passed 6 ozs. of urine. At 10 a.m. the temperature shot up to 106° F. After profuse perspiration it became normal at 2 p.m. Procaine penicillin 4 lakhs was given at 10.30 a.m.

Fourth day: The patient had a number of small loose bowel movements, which, on examination, showed R.B.Cs. and pus cells. Sulphaguanadine 6 tablets was given, followed by 2 tablets 4-hourly.

Fifth day: No more loose stools. Milk and sago given by mouth.

Seventh day: Stitches were removed. Wound healed by first intention. Patient then made an uneventful recovery and was discharged from the hospital on the fifteenth day.

Comments

Pyonephrosis is usually a complication of pyelonephritis; the kidney becoming distended with pus due to obstruction of the ureter. It may also be produced by the infection of a hydronephrotic kidney. Pyelitis of pregnancy may lead to pyelonephritis and pyonephrosis, but then it is always associated with well-marked symptoms such as fever, pain in lumbar region, etc.

The peculiarity of this case is that the course of pregnancy was quite normal, and the patient did not give any history of previous illness directly concerned with the present condition. No stones or other obstructive phenomena were observed either in the kidney, pelvis, or ureter.

Acknowledgements

My thanks are due to the Nursing Superintendent, Sister L. D. Meredith, to Sister Augustus, and to Sister Suren for their hearty co-operation in the management of this case.

REFERENCES

1. *Manual of Surgery*: Rose and Careless.
2. *Essentials of Modern Surgery*: Handfield Jones and Porritt.
3. *Manual of Obstetrics*: DeLee.
4. *Queen Charlotte's Textbook of Obstetrics.*

THE JOURNAL OF
The Christian Medical Association of India, Pakistan, Burma and Ceylon

Volume XXVIII PUBLISHED BI-MONTHLY Number 5

Annual subscription, including postage in India, Rs 5
Annual subscription, for other countries, $1·10 or 8s.
Payable to the Press

EDITORIAL COMMENTS

THERE are two items to which I should like to call your very special attention. One is the address given at the Kodaikanal Medical Conference in May this year, by the Manager on the C.M.A. Hospital Supply Agency, in which he makes a plea for more business from our Christian hospitals. I believe it is of very great importance to a doctor to know that the drug that he is giving his patient is pure. It is particularly in this sphere that our agency is, and can be, of great help to us, because we are assured that the drugs supplied are not only pure, but prices are the same for similar quality procured elsewhere. We should be very careful not to risk quality by buying cheaply.

The other item is the letter from Dr Hans Selye, which is self explanatory. If any of our readers are interested in 'stress' and the so-called 'adaptive hormones', and have done any work in connexion with these, Dr Selye would be most grateful to have reprints as soon as articles are published.

MEDITATION*

Scripture Reading: John 12:20-36

WE WOULD SEE JESUS

IN A small Congregational Church in England a brass plate is affixed to the reading desk on the pulpit, and on it are engraved the words: 'Sir, we would see Jesus.' The minister, entering the pulpit and kneeling to pray, is bound to notice these words, and he knows that they are a challenge to him as he faces the congregation. It is his responsibility as he leads them in worship and praise, as he reads the Scriptures and expounds them in his sermon, to show them Jesus. He is not there to deliver a lecture, it is not his task to entertain. He is there to unfold to them the great mystery of God, God's love towards them revealed in Jesus Christ.

'We would see Jesus'. These are striking words and they remain in our hearts, for to every Christian they are a constant challenge, a constant reminder of our responsibility as followers of Jesus Christ.

* Devotional address delivered at the Kodaikanal Medical Conference, May 18, 1953.

In the story told in John 12, the Pharisees had just complained: 'Behold, the world is gone after him'. And now these Greeks had come, making their request to Philip. We know practically nothing about them. Commentators tell us that they were probably 'Proselytes of the Gate', which means that they associated themselves with Judaism, but were not allowed into the inner temple. Whatever their status may have been the evangelist sees in this incident the spread of Christianity. The event has all the marks of universality about it.

They came to Philip, probably because he bore a Greek name, or perhaps because he came from Bethsaida which was a cosmopolitan town. Philip, however, appears to have been hesitant about going to Jesus alone on their behalf. Perhaps he remembered Jesus sending the twelve, not to the Gentiles, but to the lost sheep of the house of Israel; and how Jesus, on another occasion when the woman of Canaan appealed to Him, had said: 'I am not sent but unto the lost sheep of the house of Israel'. Whatever may have been the cause, Philip came to Andrew and told him, and together they told Jesus.

Jesus was obviously deeply moved by this incident. He had reached the stage in His ministry when there might have been cause for doubt in His mind. Dark clouds were banking up on the horizon. The end was approaching and He knew that soon the supreme sacrifice must be made, for God was in Him reaching out to redeem mankind. But what was beyond? He knew the weakness of His disciples; He knew the Pharisees sought His life, and He knew the fickleness of the crowds around Him. But here was a sudden ray of light breaking through the clouds. These Gentiles impressed Him and for Him it was as though their coming and their desire was an event for which He had been waiting.

From the point of view of popular estimation these Greeks were of little importance. Normally they would be un-noticed in a crowd. They were just 'certain Greeks' who had come up to the feast, mingling with others who were on the same mission. But Jesus sees beyond them to the great masses of Gentiles who were represented in their request, the universal family on earth which must come into the Kingdom. And so with this vision of Mankind's need He says, 'The hour is come, that the Son of Man should be glorified.' This was not the moment of glorification, but it was the promise that it should be achieved.

As one commentator points out, this was one of the small events which Jesus had a habit of noting. To those around Him, and to us, this may appear to be a relatively trivial affair, but to Jesus it was momentous. It was the fulfilment of something expected. Jesus had this capacity for recognising the momentous significance in apparently trivial events, as when the seventy returned showing such meagre results. They themselves must have felt that they had hardly made a dent in the barriers to men's hearts. Yet to Jesus it was as though he could see Satan falling like lightning from heaven.

He goes on to lay down the law of life, and tells the parable of the grain of wheat, which must fall to the ground and die if it is to bring forth much fruit. The man who loves his life will lose it; but the man who hates the life of the world with its selfishness and hatred and illusion will keep it to life eternal. This is a hard saying, but we can only understand it when we realise the context of the approaching sacrifice. What seemed

obviously trivial added conviction to Christ's sense of God's great purpose for the world.

In our work as missionaries the seemingly trivial things may be momentous for the Kingdom of God. In a million different ways millions of people are seeking, and those who come within the range of our environment, say to us, 'We would see Jesus'. They may be inarticulate; they may express themselves in other words, but the meaning of their need, of their searching, is the same.

It is inevitable that men should turn to us, for we bear His Name. We are His messengers, we have accepted His call to serve Him in hospitals or in the district, and to the minds of those around us we represent Him. They justifiably expect us to know Him intimately, and therefore be able to show Him. The Spirit of Christ should be alive in our hospitals, and in our rural medical work, for it is His purpose to work through us and to reveal Himself through our efforts, meeting the needs of men's bodies and minds. The Christian is expected to give something extra which is wrought out of his experience of his relationship with Christ.

When John the Baptist sent two of his disciples to enquire about Jesus, they received an unexpected reply. The answer to their question was not just a plain 'Yes'. They were reminded of the ways through which God's love in Christ is revealed, expressed in terms which give meaning and understanding to those who are in need. 'Go and shew John again those things which ye do *hear* and *see:* the blind receive their sight, and the lame walk, the lepers are cleansed, and the deaf hear, the dead are raised up, and the poor have the gospel preached to them'. The preaching of the Good News is mentioned last, not because it is the least, but because it represents a climax, of which all these acts of service to men's physical needs are an integral part, expressing the Gospel in its many forms, and besides having a physical meaning they have also a parabolic significance.

A tremendous burden is laid upon us to answer the desire of men who would see Jesus. When the hungry come to us seeking nourishment, they come to us because they would see Jesus. Those who ask our aid as they search for the light of modern education, choose to ask us because they would see Jesus. The sorrowing and the sick who approach us in their misery, come because we represent Christ to them. However inarticulate they may be they are saying, 'We would see Jesus'. And as we recognise our responsibility as stewards of the mysteries of God, the seemingly trivial incidents and events in our daily practice assume the proportions of momentous events for God's Kingdom. They become the parts of a chain of events linking us in wider and wider relationships with men and women and children of all types, bringing them a little nearer to the knowledge of the Saviour of mankind, so that they discover that the glory of God shines in the face of Jesus Christ.

Jesus had 'the boldness to express the inexpressible in terms of humanity', and we must have that boldness too, so that in our time and place His words may be repeated in us—'The hour is come, that the Son of Man should be glorified.'

Here in this holiday retreat and in this Conference we have the opportunity of renewing our faith in our High Calling of God in Christ. In that faith and in the consciousness of that calling may we hear clearly the

request of our people, 'We would see Jesus,' and, hearing it again, know that we can show Him to them.

In 'The Testament of Beauty', Robert Bridges utters a prayer which we can adopt as our prayer of re-dedication.

'May we, having seen God's beauty,
Live henceforth in Love,
By the merit of faith toiling to
endow the world,
Offering all our service at the throne
of God'.

M. JOHN ROLLES

THE C.M.A. HOSPITAL SUPPLY AGENCY*

F. A. BROWN, MANAGER

DURING the past few months the business done by the Agency has decreased in volume, and we have not received sufficient orders to enable us to cover our running expenses. We therefore appeal to mission hospitals for increased support, without which we shall be forced to close down.

Probably there are some hospitals which do not realise all the services that the Agency can give, so I will list them.

The Agency can obtain for you the following:

All kinds of drugs and medicines.
Dressings, bandages, cotton wool, gauze, tow, etc.
Glassware, enamelware, and rubber goods.
Glass eyes, cataract lenses, and spectacles.
Surgical instruments of Indian or foreign make.
Hospital beds, sterilizers, stills, operating tables, etc.
Microscopes, balances, and laboratory equipment.
X-ray equipment, and Diesel or petrol engines for power plants.
Medical books, and hospital charts.
Full cream, and skimmed milk powder.
Primus stoves, electric light bulbs, stores, etc., etc.

The Agency also runs the following repair services:

Surgical instruments can be repaired, replated and sharpened.

Record syringes. If you send the metal parts we can get the glass parts replaced for about two-third the cost of new ones.

Watches, clocks and spectacles.

We wish to be of service in any and every way possible, so if you want anything not listed above just write to us about it, and if it is available we will get it for you.

The C.M.A. started the Agency in order 'to ensure the supply of pure and reliable drugs to mission hospitals', and that is probably the greatest service that we render. In India there are more impure and adulterated drugs sold than in any other country. Owing to the slump in trade during the past year the practice of adulteration has increased enormously, and a foreign name on a label is no guarantee of purity. Anyone can have a label copied or a label printed bearing the letters

* A talk given at the Medical Conference, Kodaikanal, May, 1953.

'B.P.' or 'U.S.P.' and the authorities cannot or do not do anything about it. A merchant adulterates a drug from 10 per cent to 50 per cent, and reduces his price 5 per cent below market level, and he can make sales at a big profit. The Agency has been running for 16 years and has a black list of unreliable firms with whom it does not deal.

Most of the adulterated drugs produced in Bombay are sold to up-country markets, where it is probable that they are largely bought by mission hospitals, since mission hospitals usually wish to buy cheaply. Recently a hospital sent us some Codeine Phosphate (not purchased from us) to be tested. We sent it to a reliable analytical chemist, and the result of the test showed that it was 85 per cent adulterated. That might be an extreme case, but how many hospitals can detect if a drug has been adulterated up to 50 per cent? If a drug is marked 'B.P'. the compounder presumes that it is 'B.P.' and the doctor is not suspicious unless the patient does not respond to treatment.

We have had letters from doctors saying that they would very much like to buy from us, but taking into account freight, etc., they found they could buy cheaper on their local market, and as custodians of mission funds they felt they should buy the cheapest. We quite agree that as custodian of mission funds a doctor should use them to the best advantage, but is he doing that when he just buys the cheapest? In the case of the Codeine Phosphate mentioned above it was probably bought for about Rs 40 per oz. as against the Bombay price of Rs 44-8-0 per oz., but the actual value received was only Rs 7 worth of Codeine Phosphate. If you buy the cheapest do you not save a few annas on the price, and lose rupees on the quality of what you get?

If you deal with the Agency, we are your insurance policy that the drugs and medicines you get are pure and reliable.

Now the Agency has some difficulties that I would like to put before you, so that you may be patient with us.

Goods Train Shipments. If you ask us to ship by goods train we pack your order, and then inform the railway that we have so many cases of goods to be shipped. We then have to wait until the railway inform us that they have enough goods booked for your station to make up a car load. That may mean waiting a few days or a few weeks, but we can do nothing to hasten matters. If you find you cannot wait any longer, you can always write and ask us to ship by passenger train.

Passenger Train Shipments. As there are so many Bombay firms making daily shipments, we are all rationed to so many cases per day. We pack orders as they are received, but if we are busy your order may be packed for a few days before we are able to ship it.

Morphia, Pethidine, Cocaine. If you require any of these it is best if you write and tell us what you require, and ask us to reserve it for you if available. We will let you know what is available, and you then apply to your Local Excise Office for an import permit, giving the number of your D.D. Licence, name of drug, exact amount required, and our name and address as supplier. Please see that the time limit on the permit is at least one month from the time the permit will reach us, since our Excise Officer will take about three weeks to deal with it, and, if it expires before we can ship, the permit will have to be returned to you to have the time

limit extended. Please make sure that the permit bears the seal, clear and readable, of your Local Excise Office.

Price List. Owing to constantly changing prices which make a Price List largely out of date before we can get it from the printers, we have not sent out a Price List for some months. If you wish to know prices before you order we shall be pleased to send you the latest prices as soon as you let us know what you wish to purchase. If we advise you that something is 'not available' that means that we have tried to get it in every likely place in Bombay, but without success.

You can assist us in the following ways:

Order Early. If you order early so that shipment can be made by Goods Train, the freight charges will be only one-third of what they would be by Passenger Train. More Goods Train shipments mean less congestion for the Passenger Train shipments.

If you use Penicillin, Streptomycin, Plaster of Paris, or anything else in fairly constant quantities, send us a Standing Monthly Order, and we will make regular monthly shipments. If you should find that your stocks are accumulating, you can send us a post card to hold up shipment for a month or two.

Pay Regularly. Some hospitals do not pay their bills for six months or more. We do not ask for immediate payment, but we think most hospitals could pay within months. Our working capital on which we have to pay interest is about Rs 240,000, but during the past eight months the amount owed the Agency by hospitals has never been less than Rs 120,000. There are a number of mission hospitals in famine areas, which are in temporary financial difficulties, and as part of our service to mission hospitals we are allowing them extended credit, but we cannot continue to do this unless hospitals which have funds pay fairly promptly.

Buy through the Agency. A number of hospitals buy direct from firms in Bombay, and elsewhere. If such orders were placed through the Agency, the cost to the hospital would be just the same, but we should get commission on the business.

For hospitals in South India who find it quicker and cheaper to get supplies from Madras we can arrange shipment from our Madras Agents, Messrs Mayer and Co. Just send us the order stating that you would like shipment from Madras, and we will immediately arrange for shipment to be made. The cost to you is just the same as if you bought direct from Mayer and Co., but we get a commission on the business.

In closing, I would stress what I said at the beginning, that unless the Agency receives more orders it will be forced to close down. Many hospitals appear to send to us only for those things that are difficult to obtain, and purchase the bulk of their requirements elsewhere, so that we get a very small percentage of their business. We are pleased if we can assist you by getting the things that are difficult to obtain, but we cannot exist on that business alone. The Agency is the only one of its kind in India, and if the services it offers your hospital are worth having, then it should be worth a larger percentage of your orders. The Agency has cut down staff, and reduced expenses, but can do no more in that way without impairing its efficiency. It is therefore up to the mission hospitals to decide whether the Agency shall keep running or not. If you feel that the Agency should keep running, then please send us your orders.

NEW DEVELOPMENTS ON THE LEPROSY FRONT

The following is based on information received from WHO Headquarters in Geneva

If we wish to stamp out leprosy, we must cease to treat leprosy sufferers as outcastes.

Leprosy is *infinitely less contagious* than tuberculosis.

New drugs, which can be taken by mouth in the form of tablets, have proved highly effective.

BCG vaccination, whose role in the prevention of tuberculosis is well-known, may prove to have the same properties as regards leprosy.

Such are the four main ideas which emerged during the meeting of the first WHO Expert Committee on Leprosy, which took place recently at Rio de Janeiro and Sao Paulo in South America.

Leprosy, a disease prevalent from antiquity, still represents a very serious problem in the world today, the figure of 7 million sufferers being considered as lower than the actual number infected.

However, present knowledge makes it clear that it is inhuman and useless to continue to inflict on sufferers treatment worse than that in vogue during the Middle Ages, namely internment in leprosaria. The fear of such internment aroused in those in the initial stage of the disease, leads them to conceal the infection until it is too late to treat them effectively and there is a risk of contaminating those near to them.

The higher contagiousness of leprosy is a myth. A woman suffering from leprosy can give birth to perfectly healthy children and the risks of contracting leprosy run by those living near a sufferer are infinitely smaller than the risks associated with tuberculosis. Thus the experts felt that it was extremely important to draw attention to the futility and even the danger of the measures for compulsory isolation taken against infected individuals.

Confirming recommendations made in Cairo as early as 1938, the Expert Committee recommended that recourse should be had to segregation only in cases presenting a real danger of infection. If this humane policy is applied, the experts feel that patients will come for treatment voluntarily and will thus themselves help to wipe out the disease.

Furthermore, the Expert Committee noted with satisfaction the progress made in the treatment of leprosy by the use of sulfones. These new synthetic drugs, which were tried out during the second World War, have led to considerable improvement, if not complete cure, being recorded after one or two years' treatment. In addition, they have the advantage that they can be taken by mouth in the form of tablets.

Besides these established and confirmed facts, the experts discussed the hopes raised by observations indicating that BCG may play the same role in the control of leprosy as it does in that of tuberculosis. If this effect of BCG were confirmed, large-scale treatment campaigns could be undertaken in countries where leprosy is endemic.

Of great interest in this connection is the decision of the Director of the Health Services of a South American country (where leprosy is a serious problem) provisionally to drop plans for starting on a large leprosarium and to await the recommendations of the WHO Expert Committee so as to

bring his policy for the control of the disease into line with the most modern concepts and methods. The authorities of another country requested, this was approved by WHO, that the Secretary of the Committee, Dr R. Chaussinand, assist them after the close of the meeting with his advice in remodelling the leprosy control facilities of the country in accordance with more humane and effective principles.

Re: Request for Reprints Concerning Stress and the Adaptive Hormones

CASE POSTALE 6128
MONTREAL

DEAR SIR,

In perusing the current literature with which this journal is concerned, we note that an ever increasing number of its articles deal with problems pertaining to research on 'stress' and the so-called 'adaptive hormones' (ACTH, STH, corticoids, adrenergic substances, etc.).

We are writing you because, in our opinion, the success of research in this complex and rapidly developing field largely depends upon the prompt availability and evaluation of relevant publications, a task for which we should like to solicit the assistance of your readers.

In 1950, our Institute has initiated the publication of a series of reference volumes entitled 'Annual Reports on Stress' (Acta Medical Publishers, Montreal) in which the entire current world literature is surveyed every year (usually between 2,000 and 4,000 publications). Up to now, we had to compile the pertinent literature partly from medical periodicals, monographs, abstract journals and partly from reprints sent to us by the authors themselves. Of all these, reprints proved to be the best source of data which we felt deserved prompt attention in our annual reports. Hence, in the past, we have sent out several thousand individual reprint requests to authors of whom we knew that they are currently engaged in research on stress and allied topics. Even this procedure did not give us the wide coverage which would be desirable, because it is materially impossible to contact all these authors individually and it often takes too much time to get the requested reprints.

It is evident that in order to insure prompt inclusion of publications in the annual reports, these surveys must develop into a co-operative effort between the authors of original papers and the reviewers. This co-operation was greatly enhanced of late by the publication of announcements, in several medical journals, encouraging investigators interested in stress research to send us their reprints for this purpose as soon as they become available.

We should be grateful if by the publication of this note, you would also bring this problem to the attention of your readers.

We are sir,

Very sincerely yours,

HANS SEYLE, M.D., Ph.D., D.Sc., F.R.S. (C), *Professor and Director of the Institute of Experimental Medicine and Surgery.*

ALEXANDER HORAVA, M.D.
Co-author of the *Annual Reports On Stress.*

UNIVERSITY OF MONTREAL

ASSOCIATION NOTES

Formation of the Christian Medical Council of the Burma Christian Council

In November 1952 the Christian Medical Council of the Burma Christian Council was organized. This body takes the place of the former Burma Branch of the Christian Medical Association of India, Pakistan, Burma and Ceylon. It was constituted with Dr U. Sein Maung, Assistant Director of Medical Services as Chairman and Dr G. R. D. Daniel, C.M.O., Burma Railways as Secretary.

On February 28th 1953 a meeting of the Council was addressed by Dr R. B. Manikam, Joint East Asia Secretary of the World Council of Churches. The Council is in process of drawing up its Constitution which will be along the general lines of the C.M.A.I. Its members desire to continue to receive its Journal.

The best wishes of the parent body go out to this group in their effort to develop and co-ordinate the work of the Ministry of Healing in Burma.

Minutes of West Pakistan Christian Medical Association Conference held in Lahore, Dec. 29–31st, 1952

The Conference enjoyed a programme of clinical papers, ward rounds in the United Christian Hospital, and medical films. The following actions were passed and announcements made:

1. Minutes of the previous Annual Conference and of the Executive Meetings of 1952 were read and approved.
2. The validity of the Proposed Constitution was extended for one more year to enable more members to make a study of it and suggest changes.
3. The proposed form for Membership Application was approved.
4. Since the U.C.H. has had to discontinue its Lab Technician training course the Memorial Hospital, Sialkot was asked to undertake to furnish this training.
5. In view of the importance of Dispensors Training it was voted to ask the C.M.S. and the C. of S. Missions to consider sending someone out for this purpose. The Executive Committee was asked to explore the possibilities in this regard and ascertain whether contributions by interested hospitals toward the salary expense of a Pharmacist might make it possible for one of the above Boards to send him out.
6. It was announced that Dr Trimmer at the U.C.H. had begun X-ray Technicians' Training and was hoping to expand it to take in other candidates if possible.
7. It was announced that the U.C.H. would begin training in Occupational and Physical Therapy if a suitable candidate could be found.
8. The Treasurer reported that there was a balance of Rs 3,290 of which approximately one half had been allocated but not yet spent. The response for donations has been better during the past year.
9. A vote of thanks was given to the U.C.H. for its generous hospitality and fine arrangements.
10. The following Officers were elected for the ensuing year:
    Chairman—Dr T. C. Skinner, Scotch Mission Hospital, Jalalpur Jatan, Dist. Gujrat.
    Vice-Chairman—Dr W. Hakim, Charles Hospital, Gujranwala.
    Secretary—Dr J. Vroon, Mission Hospital, Sialkot.
    Nursing Secretary—Miss E. France, Afghan Mission Hospital, Peshawar, N.W.F.P.

Assistant—Mr Fazl, C.M.S. Hospital, Quetta.
Treasurer—Miss J. Graham—U.C.H. F.C. College P.O., Lahore.
Preventive Med. Sect.—Dr D. Bamber—Afghan Mission Hospital, Peshawar, N.W.F.P.
Assistant—Dr E. Manual, C.M.S. Estate Hospital, Clarkabad, Dist. Lahore.

11. The Memorial Hospital, Sialkot was asked to act as Host for the 1953 Annual Conference and the time preferred was designated as the first part of December.

12. The Preventive Medicine Sectreary was asked to suggest a practical programme which could be used to set up village health work by a hospital group. It was urged that each Mission Hospital adopt a village and follow out such a programme to give practical demonstration of the interest in this field of work.

HOSPITAL SUNDAY COLLECTIONS APRIL 1—JULY 31, 1953

		Rs.	A.	P.	Rs.	A.	P.
April 1	Hospital Chapel, Jorhat				45	0	0
	C.S.I. Hospital, Medak				50	0	0
4	By Baptist Mission, Berhampore						
	Berhampore Baptist Church	32	10	3			
	Sambalpore	25	0	0			
	Puri	10	0	0			
	Jamshedpur	10	0	0			
	Lazar Samuel	4	0	0			
	Pondapulli	2	8	0			
	Stewart S.S. Kandilar Baptist Church Tetnapalli " "	50	12	0			
	Indian Church Community Hirakud	3	0	0	137	14	3
	By C.S.I., Medak				31	0	0
18	By Santal Mission Hospital, Saranga				13	1	0
22	By Borga Church and Societies				84	0	0
30	By Miss R. Eveland				15	0	0
	By Victoria Hospital, Hanumakonda and Warrangal				200	0	0
May 15	By I. M. Church, Drug				4	0	0
21	By U.C.N.I. Church, Ferozepur				45	0	0
June 23	By C.S.I. Trichy, Tanjore Diocese				50	0	0
	By U.M.T. Sanatorium, Arogyavaram				40	0	0
July 17	By Bamdah, per Rev. F. W. Burton				10	0	0
	By Madhupur " " "				5	0	0
	By Baliaghatta Methodist Church				3	8	0
	By Sonarpur Church, Maneckpur				5	8	0
	By Central Methodist Church				12	8	3
29	By C.S.I. Hospital, Doodgaon				40	0	0
					791	7	6
	Previously acknowledged				1,824	13	3
					2,616	4	9

LANDOUR MEDICAL CONFERENCE

THE Landour Medical Conference was held in the Community Centre opening at 1 p.m., on the 12th and continuing through the 13th of June. Dr Lowell E. Jennings presided.

The devotions at the opening session were conducted by Rev. John Hunt, on Romans 4:13-21. 'Under utterly hopeless circumstances Abraham hopefully believed'. He had a believing faith and having the same omnipotent God, so can we. Paul had this same faith when he said 'I can do all things through Him that strengthenest me'.

Dr C. V. Perrill of Bareilly introduced Bishop Pickett who spoke on 'Nationalisation and Self-Support of the Medical Unit'. He emphasized that these were two separate topics and that the first should not wait on the second but be developed as rapidly as possible. In the raising of self-support he stated that non-Christians as well as Christians should be approached and no money refused unless there were conditions attached. The hospital must exercise full control. Intelligent and grateful givers were not inclined to attach such conditions to gifts.

Mrs W. W. Wiser introduced the subject of 'Hostel Diets' which was continued by Mrs Charles Riddle. The value of a hostel garden to supply through the dark leafy vegetables the needed amino acids and the need for the selection of choice persons as hostel cooks and house fathers or mothers, were points of importance.

Dr Carl Taylor of Ludhiana read a paper on 'Village Health'. He emphasized that in the choice of methods one must select not necessarily the most efficient method but the most efficient method that people would be inclined to use. On this basis Dr Taylor dealt with the subjects of latrines, favouring the pit privy, with the fly menace, 'get rid of them all at once with D.D.T. and let the people see what a difference it makes'. With wells and drainage: 'encourage planting of plantain and papaya trees to soak up surface drainage'.

Mrs Russel Graham spoke on 'Nursing, an Avenue for Evangelism'. She spoke on the need for friendliness and a personal interest in each patient; never failing to stop and find out his fears and troubles. Instead of denying the existence of evil spirits tell them that we have a Guru who has power over such spirits. With patience, quietness and tact give the message of the Cross to non-Christians. Gather the Christians together and emphasize their heritage and responsibility as children of the King. It is difficult work but some time after a long dry season will come the monsoon with its showers of blessing and the seed will bear fruit.

Saturday June 13th

The devotions were led by Dr W. E. DeVol on the subject 'Adorn the Profession'.

In a joint presentation Bud Day spoke on Water Supply and Kaz Kawata on Sewage Disposal. The points: Determine the amount of water needed, find the available source and test for quality and sterility; Get technical advice and FOLLOW it; have a demonstration of an improved village well on the compound. Septic tank with subsequent absorption system the best; local authorities and Government experts may be of great help; plan for needs of the years ahead.

Mrs Eunice Stephen spoke on the 'Sensitivity of Bacteria' dealing first with the natural resistance of some organisms to certain drugs and then dealing with the development of resistance of sensitive bacteria to the antibiotic used. She emphasized the value of combining PAS with streptomycin and Iso Nicotinic Acid. This was also emphasized by Dr J. M. Pomeroy in his discussion of the paper. In renal tuberculosis he advised viomycin and di-hydro-streptomycin continuously until the urine clears.

Dr Margaret Tucker of Ludhiana speaking on her 'Observations on Radiology in India' stressed as of first importance: The film is a hospital record and should never be given to the patient regardless of whether he has paid for the examination or not. It may be given to doctors of patients referred in for x-ray or loaned to consultants who ask for it. The value of the same unit number for the same patient for all examinations and for all admissions. A routine system of reading each film in order not to miss anything; the necessity of determining the capacity of the machine needed for the work and caution not to overload it (mentioning the vast amount of money burnt up by overloading tubes). She gave the following useful suggestions for examinations:

Film in extreme lordosis to visualize the lung aspices
Value of screening for heart action
In barium examinations:
Always examine chest first
Do not overfill the stomach thus obliterating mucosal patterns.
Follow the meal through the entire g.i. tract with fluoroscopy. Take films at right angles upright, supine, prone.
Take all the films necessary; flat rate charge in advance regardless of number of films.

Dr E. W. Wilder reported the news just received of the sudden death of Dr Jeannie Grant of Seoni the oldest member of the C.M.A., in active service after 52 years given to India, and the Conference stood in silence in her memory. He gave a brief report of the affairs of the Association inviting each hospital to send a representative to the Biennial Conference at Nagpur, October 24th–27th. Dr Everard brought to the attention of the Conference the opportunity extended to medical missionaries to buy books at half price from Livingstone's in Edinburgh.

Dr R. P. Carr of Nasik in her 'Everyday Occurrences in the Labour Room' gave many practical points accompanied by illustrations. She gives a trial labour in cases of disproportion with careful attention to the foetal heart, progress of the head and the time of rupture of the membranes. In podalic version, advised for cases of prolapsed cord, she emphasized the need of introducing the hand entirely to the fundus before palpating for a foot. Discussing haemorrhage she advised the use of Willitts clamp with constant traction in cases where the cervix was 2-3 fingers dilated in cases of placenta praevia; laparotomy for bleeding from hydatidiform mole. She spoke highly of the use of both castor oil and enema to stimulate the uterus.

Dr Charles V. Perrill presented a total of 10,000 cases of anaesthesia in half of which ether by the open method gave satisfactory results. He demonstrated a tight fitting mask made from discarded x-ray film. This with a loose gauze filling economises in ether and permits rebreathing. Morphine is not used, the premedication consisting of scopolamine sometimes combined with chloral hydrate, except in cases of Caesarean Section. Use catheter for aspiration of mucus; mouth to mouth breathing the best method of artificial respiration.

Papers on 'Spinal Anaesthesia' by Dr Bradford Steiner of Landour and 'Common Dental Problems' by Dr Robert Petersone of Bareilly were then presented* and the session closed with the showing of a film on Peripheral Nerve Surgery: Repair of the Sciatic Nerve by Dr John Painter of the American Embassy, New Delhi.

The Conference elected Dr J. M. Pomeroy of Almora as its chairman for 1954.

* See later Journal for full paper.

SECRETARIAL NOTES

Landour

June 9-17. Left Nagpur (114) by Grand Trunk for Delhi on the 9th morning enjoying a surprisingly comfortable journey. Spent the next day there calling on Dr Benjamin at the Secretariat and loafing in the not too comfortable station. At 8 onto the Mussoorie Express. Just before we left a young man with familiar face got on and found he was Douglas Pickett who had travelled home on the 'Marine Lynx' with us. Comfortable night and awake in time to see Hardwar with its temples by the stream.

Arriving at 7.30 at Dehra Dun saw Rev. Frank Kline and introduced by him to Dr. and Mrs. Ockenga of Park Street Church, Boston, just arrived by air after attending the graduation ceremonies at Fuller Theological Seminary in which our son received his diploma. Quick trip up to Kincraig in taxi station wagon and long trek from there to 'Stoneledge' home of the Charles Riddles. Welcomed by Mrs R. and later by Dr Lowell Jennings of the American Wesleyan Mission, Vapi, in charge of the Landour Medical Conference. To tea came Mason Olcott, Jr., of the staff of Woodstock School, whose mother I had met in Kodai three weeks before.

Morning of the 12th came members of the Gujerati language class to learn about the C.M.A. and ask questions about medical work. At 1 to Inaugural meeting of the Medical Conference, meeting among other old and new friends, Drs Carl Taylor back from Harvard with his D.P.H., Virgin and Tucker of Ludhiana, Pomeroy and the Perrills of Bareilly, Mrs Robert Martin, formerly of Ludhiana and now of Kasganj, Everard of Kachhwa and Arthur Thiessen of Champa. One of the interesting features of this session was the presentation of topics of interest to non-medical people staying on from the Missionary Conference of that morning. The Conference continued the following day with a full programme of short papers on varied subjects.

Sunday enjoyed service in the Kellogg Church, especially the music by the choir and the sermon by Rev. E. L. Cattell. Lunch with Mrs Dorothy Parker and then at 4 back to the Kellogg Church to hear Pressler's 'Missionary Suite' sung by the Kellogg Choir, accompanied by the composer and directed by Mrs Pressler.

Monday morning at the scrivening and in the afternoon the return journey to Delhi travelling with Rev. and Mrs R. N. Davis of Yeotmal. Spent day in Delhi taking in the film 'A Queen is Crowned' with great enjoyment. Off that evening for Nagpur arriving the day after a heavy shower.

Nagpur

June 17–August 20. Busy at desk with plans for the Biennial and other matters. July 23-26 a restful and constructive period with the other N.C.C. Secretaries at their annual retreat at Bhandara, 37 miles from Nagpur. Frequent trips to Council Lodge to watch the foundations of the C.M.A. bungalow go in and the walls rise.

NEWS NOTES

Corrections

We regret that a Note in the May Journal connected Dr Lilavathy Thomas with the Regions Beyond Missionary Union. It has been brought to our attention that this relationship has ceased from 1947.

Dr Catherine Macdonald Martin should have been Dr Christine Macdonald Martin.

Arrivals in India

Dr V. C. Rambo returning from furlough to the Christian Medical College, Vellore.

Dr and Mrs T. N. Strong of the Regions Beyond Missionary Union returning from furlough to the Duncan Hospital, Raxaul.

Dr Carol Jameson of the Christian Medical College, Vellore returning from short leave.

Dr P. Koshy of the Department of Medicine, Christian Medical College, Vellore, returning from study leave.

Departures from India

Dr (Mrs) Margaret Johnson of the C.M.S. Hospital, Lusadia, on furlough.

Dr P. D. Sukhnandan, Vice-President of the C.M.A. and Medical Superintendent of the Christian Hospital, Mungeli to the U.S.A. for higher study.

Dr H. H. Nicholson of the Jackman Memorial Hospital, Bilaspur to America on Furlough.

Dr E. D. Rosenthal of Kodaikanal has left India to study in the University of Iowa.

Dr W. T. B. MacAlister of the MacRobert Hospital, Dhariwal to England on health furlough.

Dr Frank Curry of Kangpokpi to America on furlough.

Dr K. Vytilingam of the Department of Medicine, Vellore to America for study under fellowship.

Dr Lytton Furniss of the Dichpali Leprosy Hospital for furlough in England.

Dr Margaret A. Ingram of the Christian Medical College, Ludhiana to England for her marriage.

Dr Sohan Lal of the Christian Medical College to England for study for her fellowship.

Dr Bruce W. Jarvis of the Methodist Hospital, Nadiad on furlough.

Transfers and Postings

Dr Moti Solomon of the Jackman Memorial Hospital, Bilaspur, has returned from study in America and is now Medical Superintendent of the Hospital.

Dr Ernest Pedersen from the Emery Hospital, Anand to the MacRobert Hospital, Dhariwal, Punjab.

Dr V. C. Abraham from the Scudder Memorial Hospital, Ranipet to Mission Hospital Kuwait, Persian Gulf.

Dr S. M. Barla from St Luke's Hospital, Chabua to Koialmani Hospital, N. Lakhimpur.

Dr N.A. Chacko from the B.J. Medical College, Poona to St Mary's Hospital, Manarcad, Travancore.

Dr and Mrs (Dr) M. M. George from Yeola to Kopergaon, Ahmednagar District.

Dr Aleyamma Jacob from Edayaranmulay to St John's Hospital, Ettumanoor.

Dr J. Reginald Joel from the Boy's Brigade Hospital, Kundara to the L.M.S. Hospital, Neyyoor.

Gleanings

St Margaret's Hospital, Poona celebrated its Diamond Jubilee this year. As rewarding as the response to the appeal for funds was the demonstration of friendliness manifested often in unexpected quarters. Twenty nurses sat for their exams and twenty passed.

The Holdsworth Memorial Hospital, Mysore reports its recognition as a hospital for the general training of nurses and also for the training of internes. The return of Dr Pierce, the installation of a male houseman for the Men's Wards and the opening of a private ward block were the outstanding events of the year.

The Jalna Hospital of the Church of Scotland Mission in its 130 bed hospital treated 3,909 in-patients in 1952. It records 432 deliveries. The sanitary installation has begun and two private wards have been completed.

Report for 1952 was also received from the *N.M. Wadia Hospital, Poona.*

The Report of *The Union Mission Tuberculosis Sanatorium, Arogyavaram* including the *Rajkumari Amrit Kaur Hospital* is as comprehensive and detailed as usual. Of particular interest is the discharge result on 9,808 patients treated in the 36 years since the Sanatorium was started. The list of scientific papers published by the staff is also impressive.

The Institute for Clinical Pastorate Training held in the Clara Swain Hospital and the Bareilly Theological College under the direction of Dr Ram Dutt welcomed another 11 students in its five week course.

Vellore News

The Christian Medical College has received a grant from the Rockefeller Foundation of $ 10,000 for upgrading of the Pathology Department. From the same source a Travel Grant of $ 4000 for Dr. Jacob Chandy, Vellore's Neuro Surgeon.

Obituary

Jeannie Grant, M.B., Ch.B., 1874–1953

Suddenly on June 6 and while at work in her medical tasks, as she would have wished to be to the end, Dr Grant sustained an accident from which she died one hour later. Thus ended a life of 79 years, 52 of them spent in the Ministry of Healing in Seoni.

Dr Grant was born in Inverness, Scotland. She qualified at the University of Glasgow and spent a short period in private practice near Glasgow. In 1901 she came to Seoni in the Central Provinces as an appointee of the United Original Secession Church of Scotland to begin the medical work of the Mission. For 18 years she carried on her work in a private house but in 1919 she was able to move into the new dispensary building constructed for her use. A year later a second building afforded opportunity for the treatment of in-patients. Her dream was the addition of a maternity block but owing to the delays incident to the second World War she was able to see only the preparatory stage of this building.

Although from time to time Dr Grant had the assistance of other doctors, for the most part she carried on the work single handed. Enjoying an unusual measure of health and strength and practising a regular and strict economy of time and effort she was able to sustain efficiently a burden of work with which few could have coped. She trained a number of girls and young women to assist her, but her assiduous attention was given to each patient under her care. Entrusted with the medical care of the Mission Orphanage she extended this to include spiritual instruction of the orphans and the conduct of their daily devotions. Her long connection with the Sabbath School and other youth organizations was evidence of her interest in and love for young people.

For years she made a weekly visit to a Gond village, and becoming fluent in Gondi, was able to present the gospel message to them in their own tongue, as well as to minister all the more effectively to their sick. Another of her great interests was the teaching of adults to read, and in a day before the present emphasis on adult literacy, she taught one after another in Seoni to accomplish this.

Dr Grant was the oldest member of the Christian Medical Association still in practice in India. She joined the Missionary Medical Association* along with Sir Henry Holland, Drs C. Rose Greenfield, E. M. Farrer and Minnie Gomery all still living but retired.

In 1914 she received the silver Kaiser-i-Hind Medal to be followed in later years by the Gold Medal. Many of the local practitioners attended the funeral and the Secretary of the Local Medical Association on their behalf expressed their heartfelt appreciation of her long life of skilful and devoted service.

NOTICES

Devotional Helps

One of our members has suggested that doctors and nurses might like to avail themselves of the Bible Reading Fellowship Notes. These are published by

The Reading Fellowship
12 Buckingham Palace Gardens
London S.W. 1

but they may be had in India from any Church of India Chaplains or from the Office of the Metropolitan, Church of India, Burma and Ceylon at Calcutta. The cost of Series A is Rs. 2 for 4 issues a year.

THERE IS STILL TIME to send in your application to attend the Fourteenth General Conference of the C.M.A. and the Annual Meeting of the Nurses' Auxiliary of the Association to be held in Nagpur, October 24–27. Meet with doctors and nurses from all over India and share with them the fellowship and mutual sharing of experience, professional and spiritual.

Training in Eye Nursing in America

The one year course in Eye Nursing at the Wills Eye Hospital, Philadelphia begins on the 15 of March and September each year. Applications for the course beginning in September 1954 will be received up to March 1st 1954. There will be four places available. Apply to the Secretary, Nurses' Auxiliary, Nelson Square, Nagpur. Travel to and from America will be paid.

POSTS VACANT

'Wanted: House Surgeon with about 1 year's experience and preferably some experience in Anaesthesia, including Intra-tracheal. Good experience: Apply Chief Medical Officer, Evangeline Booth Hospital, Ahmednagar'.

Wanted: Male, Christian Hindi speaking doctor, licentiate or graduate to work as House Surgeon in a 100-bed General Hospital. Apply Medical Superintendent, N.Z.P. Mission Hospital, Jagadhrim, Punjab.

Wanted: A young Christian Doctor for a well established T.B. Sanatorium. Salary according to qualifications and experience. No private practice allowed. Apply: Medical Superintendent, Madar Union Sanatorium, Madar, Ajmer, India.

* Precursor of the Christian Medical Association.

SITUATION WANTED

An experienced, Young Christian M.B., B.S. doctor seeks suitable post. For details apply to Dr N. A. Chacko, M.B., B.S., St. Mary's Hospital, Manarcad, Kottayam, U.S.T.C.

A German Lutheran and his wife in their thirties are anxious to engage in Christian work in India. He has the equivalent of S.S.L.C. education plus a number of years of professional experience, the last three as an accountant in a surgical supply company. During the war he had valuable experience in operating room supervision. Reads, writes and speaks English fluently. Wife a stenographer. As business manager or theatre supervisor would be valuable aid to hospital. For particulars write Dr Raleigh Pickard, E.T.C.M. Hospital, Kolar Town, Mysore State.

Edited and Published by Dr H. H. Gass, Christian Medical College, Vellore
Printed in India by Hugh Warren at The Wesley Press and Publishing House, Mysore

NURSING NEWS

NURSES' AUXILIARY OF THE CHRISTIAN MEDICAL ASSOCIATION
OF INDIA, PAKISTAN, BURMA AND CEYLON

No. 130 *September* 1953 No. 130

AIM

The Extension of the Kingdom of Christ through
the Ministry of Health and Healing

OBJECTS

1. By mutual co-operation and encouragement and by the cultivation of a fraternal (brotherly) spirit among all Christian nurses.
2. By efforts to secure the highest efficiency in Christian nursing education and work.
3. By the spread of information concerning the need of nursing work and its place as an integral part of the Christian message.
4. To supply a means of effectual co-operation with the Christian Medical Association in considering matters of interest common to the Christian Medical and Nursing professions.
5. To consider the special work and problems of Christian nurses.

PRAYERS

Let us Pray that God may help us to use the Nurses' Auxiliary to extend the Kingdom of Christ.

Let us Pray that we and the Doctor (name) and Nurses (names) with whom we work shall here today hallow God's Name, seek His Kingdom, do His Will.

Let us Pray for our Officers that they and we together may do God's Will.

OFFICERS

President	Miss F. E. Gruchy, Hat Piplia, via Indore, M.B.
Vice-Presidents	Mid-India, Mr John Harrison, Mission Hospital, Ratlam, M.B.
	North India, Vacant.
	Bengal Area, Miss M. Hall, Duchess of Teck Hospital, Patna.
	Bombay, Miss Rachel Thomas, S.S.G. Hospital, Baroda.
	South India. Miss Aley Matthews, Scudder Memorial Hospital Ranipet.
Secretary-Treasurer	Miss E. C. Putnam, Christian Council Lodge, Nagpur 1, M.P.
News Editor	" " "
Co-opted from C.M.A.	Dr H. M. Lazarus, C.M.C. Hospital, Vellore.
" " "	Dr E. W. Wilder, Nelson Square, Nagpur 1, M.P
" " *T.N.A.I.*	Miss I. Dorabji, 28 Alipore Road, Delhi, 8.
Branch Secretaries—	
Assam	Miss Owen, Mission Hospital, Shillong.
Bihar and Orissa	Miss M. Hall, Duchess of Teck Hospital, Patna.
Bombay	Mrs Duncan Fraser, 1 B Stavely Road, Poona.
Madhya Bharat and Madhya Pradesh	Miss T. Singh, Mission Hospital, Indore.
Hyderabad	Miss Kamala Paul, Mission Hospital, Medak.
Madras—Andhra	Miss Dorothy Asplund V.M.M. Hospital, Hanamakonda, Deccan.
Madras—Tamil	Mr James Arulasanam, W.P. Memorial Hospital, Mathurai.
N. W. India	Miss E. L. Bates, Medical College Hospital, Ludhiana.
W. Punjab	Miss Dorothy Dagenhart, N.F. Hospital, Montgomery.
Travancore	Miss M. Jakins, L.M.S. Hospital, Neyyoor.
Uttar Pradesh	Miss D. Atkins, B.C.M.S. Hospital, Kachhwa.
South India Nurses' Examining Board	Miss T. Neudoerffer, Kuglet Hospital, Guntur.
Mid-India Board of Examiners	Miss L. Scott, U.C.C. Mission, Indore.
Language Editors—	
Telugu	Mr C. H. Matthews, Clough Memorial Hospital, Ongole.
Hindi	Mr John Harrison, Mission Hospital, Ratlam, M.B.

EDITORIAL

Can you help to make the NURSING NEWS more interesting by supplying the following:

(*a*) Short descriptions of, or notes on, interesting cases or procedures?

(*b*) Reports of official or social functions in which nursing members of hospitals and dispensaries take some part?

(*c*) 'Write up' of lectures, or of particular illustrations which have made clear some point of nursing technique and which would be interesting if passed on to others?

(*d*) Cuttings, or extracts from books or magazines which are of general interest or helpfulness to nurses? (In this case the source must also be given.)

All articles sent for printing in the News must be in grammatical English and preferably typewritten on one side of the paper only. Otherwise it will be disqualified.

Will members take notice that the V.P.P. system of collecting fees has now been abolished; send your subscription by money order or if by cheque be sure to add 8 annas for bank commission.

SECRETARY'S NOTE

Miss Clarke has been kept busy speaking at Meetings and Conferences, keeping in mind the claims of the Nurses' Auxiliary, but we expect to welcome her back to India by mid-October, in time for

THE ANNUAL MEETING OF THE NURSES' AUXILIARY

This is to be held at Nagpur, when the BIENNIAL CONFERENCE OF THE C.M.A.I. meets from Saturday 24th, to Tuesday, 27th October. Please keep these dates free and do your best to send your Nurse Representatives to these Meetings.

There will be special subjects dealing with Nursing, as well as the Annual Business Meeting.

The Executive Committee also will meet during the time.

Full particulars have been sent to the Heads of all Christian Hospitals and Nursing Institutions.

Further information may be obtained on application to the Secretary of the Nurses' Auxiliary.

'Farley'
Ootacamund
8th August 1953

DEAR NURSES AND MEMBERS OF THE NURSES' AUXILIARY OF THE C.M.A.I.

By now you will all know that due to urgent circumstances I am obliged to leave India before my tenure of service with the Auxiliary is completed. For this I am extremely sorry but I know within myself I must obey the call to go home.

It has been a great joy to me to have had the privilege of serving you all, these eighteen months, and I now, in saying farewell to you all, must thank you for all the co-operation you have given me. The office work has been made easy and possible even in my busiest days because of this.

My travels have been through many parts of India, they have afforded me opportunities of seeing you serve Him The Divine Healer, they have been full

of rich experience and choice fellowship: to all I say 'Fare Thee Well'. 'God bless you every one'.

In closing may I again thank so many of you who have entertained me in your homes, remembered me in your prayers and borne with me in my many failures. It is all 'Until He Come'. If any of you are coming to or passing through England I shall be delighted to hear from you and have you visit me. My address will be Mrs Lincoln Watts, Waynfleete, 12, Quilter Road, Felixstowe, England.

Yours very sincerely,
(*Sd.*) E. A. WATTS

OF SPECIAL INTEREST TO NURSES WORKING IN EYE DEPARTMENTS OF CHRISTIAN MISSION HOSPITALS

A brief notice under this heading was inserted in the July issue of NURSING NEWS. We understand that the one year courses in Nursing of Eye Patients begin on the 15th March and September 1954. There is an opportunity for four nurses in each course. Applicants should be graduate nurses, mature and experienced, with good command of English. The Wills Eye Hospital of Philadelphia guarantees passage to America, maintenance during the year of training and arranges for return passage.

A Committee has been set up to choose from the Applicants. Special consideration will be given to candidates from those hospitals which have an active eye service, and those desiring to take advantage of this course in 1954 should send in their applications IMMEDIATELY to Dr E. W. Wilder, Secretary, Christian Medical Association, Nelson Square, Nagpur 1, M.P. who will supply further information.

1. EVOLUTION OF PUBLIC HEALTH

By LILLIAN BISCHOFF

By Courtesy of the Nursing Journal of India

The science of public health is a phenomenon of modern times. Yet if we look back over the course of history we find that the same motives which result in public health programmes today were felt and expressed centuries ago. Only the means of expression, in an era of developed science, is different.

In early Hindu writings, the great forces of nature involved in public health were recognized and named. Man's existence, it was pointed out, was in a context of Creation, Maintenance and Destruction. With each of these today, public health is deeply concerned. Brahma, the first of the Hindu triad, composed the Ayur Veda in which he described conditions tending to prolong or shorten life, dwells on the nature of diseases, their causes and methods of treatment. The essential pattern has not changed. Only the results of research, the contributions of scientists, the experience of public health workers have been added. The story of public health is rich, romantic and constantly moving forward with a purpose of making a better and happier life. It is possible to touch only the highlights in the evolution of public health at this time. It is hoped that this article will provide stimulation for deeper reading and study of skills and techniques that have extended the span of life from 39 to 66 years in those countries where the people and the government have worked together in the battle against the Destroyer.

Ancient theories of disease in India, China and Greece were about the same. Early records referring to medicine are couched in terms of imprecations against demons, sorceresses, and enemies; of charms for expelling disease wrought by demons or sent by the gods as punishment for man's sins; of incantations intended to impart health, longevity, success and victory. There

was not a marked difference between disease and demons. Something of this symbolism is used today. When we represent a disease graphically, we often use the figure of a demon.

It should be recognized that the early religious teachers and writers, long before the rise of bacteriology, emphasized the importance of hygienic living as a fundamental part of the religious doctrine. Moses taught the children of Israel to deposit body waste in a hole and cover it thoroughly with soil. As early as 200 B.C. the Romans built an aqueduct to bring clean water to the city of Rome and to take the sewage away from the homes.

Dhanvantari, the Hindu tutelary divinity of classical medical wisdom and allied with the Divine Maintainer of the universe—Vishnu and a disciple of Siva, the conqueror of King Death—taught, among other hygienic lessons, some basic principles of maternal and child hygiene, many of which are identical with the principles of personal hygiene that we teach today. For example, Dhanvantari says, 'A woman may improve her milk by taking green gram gruel for food'. Rites are observed on occasion of the first sucking of child. 'Mother must be clean, well-clad, (and sit facing the East), she must wash her breast and squeeze some milk from it. . . .' The incantation of the priest on the occasion of the first sucking is the expressed hope that I am sure we feel today when we urge the mother to eat enough of the right kinds of food and when we teach breast care in preparation for nursing the baby. The priest or father, after sprinkling the child with water, chants, 'O child, let the Sea of Milk fill the mammæ with milk for thee, and be thou strong and happy for ever. O lovely-faced lady, let thy child live long by drinking the nectar-like milk, just as the gods are able to live for many years by drinking the beverage of immortality'. His teaching continues, 'The child should never be disturbed in sleep, nor made to sleep against inclination. Anointing, bathing and soft clothing are always good for infants'. Those early religious teachers of the East and the West were the first public health teachers. They, because of lack of scientific knowledge, did not know why the things they taught were true or why some of the other things they taught were detrimental to health. Today, personal and environmental hygiene teachings have a scientific background that explains the difference between the right and wrong teachings.

Universe of Law—the concept of an orderly universe with definite order of operation was recognized first in India and China and reached Europe in the 4th Century B.C. The Universe of Law is vital to science because it involves the principle of cause and effect. As long as one deals with unpredictable spirits, there is no hope of scientific progress. The law of cause and effect, first applied by the Greeks, made men ask: What is this? Why does it act this way? How does it act and react? And to observe and record many of the things they saw, what they did about them, and the resultant reactions. Through the principle of causality, we are able to recognize and define problems. It is when we recognize a problem and accept the fact that the problem affects one's security or the security of those we love, that we feel the need for change and help. The beginning of the concept of public health came in the mediæval period and related to leprosy, plague and syphilis. These epidemics took so many lives and threatened so many others that ways and means were sought to stop and control them. The theory and practice of quarantine and isolation developed from these three epidemics and marked the beginning of defensive medicine.

Progress in public health was slow and halting for many centuries. Organized movement for public health in a positive sense is little more than a hundred years old. In 1842 Chadwick published a report entitled *Sanitary Conditions of the Population of Great Britain.* Chadwick believed that there was a relation between filth and disease and his theory led to successful methods of practical sanitation. Cleaning up the masses of accumulated filth, and purification of water supplies substantially reduced the epidemics of cholera and typhoid that ravaged Europe at that time. This demonstrated that disease could be controlled

and should be controlled as a public responsibility. The modern germ theory came much later and developed along two lines. Two English epidemiologists, Snow and Budd so described the nature and properties of disease germs, without recourse to a microscope, that the germ theory was practically accepted before the brilliant work of Pasteur came to light. Pasteur developed the germ theory of fermentation at about the same time Snow and Budd were working on their epidemiological observations and findings. Lister based the practice of antiseptic surgery on Pasteur's work and then followed the theory that contagious diseases are caused by germs.

The public health pioneers knew then that dirt, filth, disease-bearing sewage and waste, overcrowded housing, and unclean water and milk constituted the greatest menace to health. It was in response to these needs that organized public health programmes developed.

The science of public health grew and expanded as new knowledge became available and as human and environmental needs were acknowledged by the people and the profession. The rapid development of bacteriology brought many new techniques which enabled programmes to go beyond quarantine and disinfection. Immunization against a wide range of diseases became possible and specific serums gave us our first effective therapy against many illnesses.

Sanitation and control of communicable diseases comprised the first two phases of the public health programme. Tuberculosis, an ancient, mediæval and modern public health problem, was first attacked by the Tuberculosis Associations. This group of scientists and lay workers established the principle that tuberculosis control depended on control of the infection and on personal hygiene measures designed to build vital resistance. Thus, the programme of education in the principles of personal hygiene was added as the third important phase in public health.

The organized movement to protect mothers and babies grew out of the industrial revolution. It was at this time that public health laws were enacted to protect women during pregnancy and to forbid the employment of children in factories.

Environmental sanitation, application of the principles of personal hygiene, and an enforcement of the laws protecting mothers and babies all contributed to the dramatic reduction of maternal and child deaths. For example, in Thailand where a vigorous compaign against malaria and other Destroyers of life has been operating, the infant mortality rate has dropped from 88·7 in 1944 to 64·4 in 1950. In countries where organized public health programmes have operated for 50 years or more, we find even more dramatic reductions in infant death rates, as shown by the following table:

Infant Mortality Rates[1] for Selected Countries from 1930-1950[2]

Country	1930	1940	1950
Netherlands	50·9	39·1	25·2
Norway	45·6	38·7	27·7
Sweden	54·7	39·2	20·5
Switzerland	50·8	46·2	31·1
England and Wales	60·0	57·4	30·1
Canada	89·3	56·4	40·7
New Zealand	34·5	30·2	22·7
United States	64·6	47·0	29·2

(To be continued)

[1] Infant mortality rate means the number of infants that die per 1,000 live births.

[2] *Demographic Year Book*, United Nations, New York, 1950.

AN ACCOUNT OF MY TOUR IN ASSAM, UNDER THE AUSPICES OF THE NURSES' AUXILIARY OF THE CHRISTIAN MEDICAL ASSOCIATION

(*Continued from the last issue*)

On Friday morning, March 6th, we were up again early and waiting for the taxi to take us to the bus, so arrived in good time and secured good comfortable seats. There were many vehicles to pass through the timing gates, but we were well ahead this time. The journey was uneventful and very enjoyable. When we reached Gauhati cycle rickshaws were our next means of transport to take us to the American Baptist Mission Hospital, Gauhati. We were again on the plains and it was quite hot. A welcome awaited us there, and it was a great pleasure to meet Miss Townsend and her colleagues.

Miss Townsend herself had been very helpful in both planning, and unplanning parts of the suggested tour. She knew that it would be impossible for us to visit every place we had suggested, and we realized this once we were in Assam and found how difficult it was to travel, especially when off the air route. The Hospital at Gauhati consists of a fine set of buildings, comfortable wards, well equipped in every way. The Nurses are comfortably housed and cared for. After dinner, I was invited to address the nurses at a meeting which had been arranged in combination with their weekly ***Christian Endeavour***, and it seemed a fitting opportunity to stress that the secret of successful nursing was the combination of Christian ministry, and service, together with professional skill.

During the short stay here it was also a pleasure to visit the Women's College and see the very happy arrangements and the beautiful house of the Students of the College.

Tezpur. March 7th was the day for resumption of air travel, so we made our way to the Gauhati Air Port, this time with no incidents and a less ramshackle air bus. Arriving in good time we waited and watched for our plane to come in and disembark some passengers, and then we took off for Tezpur. Although it seemed that as soon as we were up we were down again, we did manage to have a sweet, drink a cup of coffee, and eat a few cashew nuts, also to look at the daily paper. But the trip took only twenty minutes, and at our arrival at Tezpur we were met by Miss Arlene Jenson and Mrs Merchant who soon took us to the bungalow. Up to the present time the work here has been carried on chiefly among out-patients, and Miss Jenson has with her Miss Betty Person and one trained Indian Nurse.

With regard to food we were certainly not allowed to go hungry! While we were doing the air hopping from place to place, in each case our hostesses on departing insisted upon us having an early lunch in case we would be too late for the meal at the other end, and, again in each case, our receiving hostesses had a late lunch awaiting us. We did not wish to embarrass our kind friends by refusing, so with 'elevenses' on the plane, and two lunches for three successive days, it could not be wondered at if we got heavier as the days went by. But there, India is a hospitable country, and Assam is an essential part of India!

I was telling you, though, about our visit to Tezpur. We first of all looked around the out-patients' buildings, two of which had been great water tanks in the days of the second World War, then we went to the Dispensary. (This really did give us an excuse to eat a second lunch.) After this a rest seemed indicated, and we arose refreshed, and ready to go and see the new fifty bed hospital that is being built. The walls were up on all the buildings, one of which was being roofed. I am sure that Dr Edwards, Dr Merchant, Miss Jenson and Miss Person are going to be proud of their hospital when it is finished, and are going to find a wonderful scope for work in days to come.

Having finished the round, we were then entertained to tea, when doctors and nurses of the medical centre and nurses from the civil hospital met for social fellowship, after which I was privileged to give a little talk. The day finished with a trip in the car to Tezpur town, a ride around the lake, a visit to a silk shop, and then home for dinner and bed, quite ready to once again thank our Master for the happy fellowship of another day.

March 8th, Sunday morning. We had been told to wake up, look out of the windows and gaze on the snowy Himalayas which we would see from our bedroom window. But alas, there was no sun but just thick mist, so this pleasure was not afforded us. After having eaten our first lunch we were taken to the Air Port in the car and off on our next top to Jorhat. The weather had somewhat cleared but it was raining as we boarded the plane. Another thirty minutes in the air, following the same travel ritual as the previous day, and then we found Miss Eastlund waiting at the Air Port with the hospital car which very soon landed us in the spacious grounds of the Christian Hospital. Here we were soon enjoying the hospitality of the friends who were to be our hostesses, and in spite of our previous lunch found the tempting morsels set before us so irresistible, that we did justice to them too. After having had a short rest in Mrs Eastland's bungalow we were taken over to Dr and Mrs Hassalbland's who had kindly undertaken to entertain us. It being Sunday, instead of having a meeting with the nurses only, it had been arranged for us to take part in the usual Sunday evening service which was to be held in the Hospital Church. Supper was laid on early, then we all made our way to the hospital. The chapel is a lovely spacious building which by the time we arrived was full with an attendance of something between 250 and 300 people. The beautiful part singing was led by a choir of nurses. Special items were also rendered by a group of young Lushai men students from the engineering college who sang in their own language. After this I had the privilege of speaking.

The next morning after breakfast we went round the lovely hospital. The wards are spacious, well equipped and I am sure a pleasure to work in. There is a progressive nursing school. Most of the teaching is done in Assamese, but I am told that the nurses come from as many as eighteen language areas. Some problem! Before much teaching can be done the students have to learn Assamese together with some English.

The tuberculosis sanatorium is situated in another part of the compound which I visited and also the Nurses Home and finally the leper colony. The ground covered that morning was extensive but it was well worth while.

Back to the bungalow again, a quick lunch and then we went off again to catch the plane for Mohanbari *en route* for Chabua. Arriving at the airport we were met by Miss Sands and two of the Nurses and were soon on our way. After some miles along ordinary plains roads we came to the main road which took us through lovely tea gardens and thence to our destination. This was St Luke's Hospital where Miss Workman was waiting to receive us. A very interesting afternoon and evening was spent in visiting a small busy hospital which has lately been extended. There is also a training school for nurses recognized by the Assam Nursing and Health Services. After an early dinner we gathered together in the Nurses home for a time of fellowship with the Doctors and Nursing staff.

The next morning we were up very early and were off in Miss Holden's car to Panitola. After an interesting drive of about seventeen miles we were soon at the tea gardens hospital where we were met by Miss Holden the Nursing Superintendent. After morning coffee an interesting time was spent in visiting the nurses quarters which were comfortable and spacious and then the beautiful tea garden's hospital, finishing up again at Miss Holdens' bungalow where we enjoyed a most appetising lunch. Truly the people attached to these tea estates are well served and the nurses are also well cared for and housed. Although loth to leave, we soon were again on our way in Miss Holdens car first retracing

our seventy-five miles passing through Chabua following the same main road to Dibrugarh. After driving through the town and doing shopping for the next part of our journey we paid a quick visit to the large Medical College Hospital. There we not only saw parts of the main hospital but also had the opportunity of seeing the fine new out-patients block which is a most marvellous building and at that time was in the last stages of completion. As the car which Miss Holden had so kindly lent for the day was needed back at its base by early evening our visit was a hurried one but most enjoyable.

Back again in Chabua by 6.30 p.m., after such a well worth day we found ourselves fairly tired and ready for bed. The next morning we were up at dawn ready to commence a new stage in our travels which was to be our last visit of the tour: The Lushai Hills.

(To be continued)

LOVE GRASPS NOT AT HER RIGHTS IS NOT PROVOKED

1 Cor. 13:5

Every one is a seeker, but love seeks not her own. Love seeks nothing for herself. This must be so in the very nature of the case. It is Love's nature and essence to give, to pour itself out. It cannot seek its own. Love goes, gives out, is ingenious to bestow, and that regardless of cost.

Have you watched the ocean beat upon a rock-bound coast? It gathers itself into waves, succession upon succession of them, and one by one it casts them up upon the cliffs of rock. One by one the cliff takes them, smashes them to spume and spray, and flings them back into the bosom of the ocean. And the ocean gathers up the fragments, unites them in another surge, and casts it up again. With tireless regularity and with eternal patience it seeks to give itself to those hard, cruel rocks.

So is Love. Behold the ocean of Love in the bosom of Jesus, in the garden of Gethsemane, as Judas comes to betray Him with a kiss. What a hard, fateful night. And what an ocean of Love continued to gather itself into waves of gentleness, in hopes of entering yet, and softening, and winning Iscariot for the Home above. There was no flush of anger; no shudder of horror; no protest of disgust. Love just gathered itself up in love and said: 'Friend'. And then in hopes of winning penitence and return, asked the question: 'Wherefore art thou come?' Love hoped to bring a sense of shame and repentance by getting Judas to formulate in so many words what he was doing.

Love grasps not at her rights.

Those who are moved by Love find many realms closed to their search. They may not look for material gains, or pleasurable experiences. These may be sought, but not for themselves. They must be only a means to an end, and the end, bestowal on others.

The lazy man is selfish, he must be, for laziness is selfishness. But a patient earnest toiler may be. He may be toiling for himself.

The man who lives for sense, and pleasure, must be a selfish man. But the man who seeks the high and noble may be selfish too. A mother may be selfish who runs off to meetings to the neglect of her home.

Love never has its eye on itself. Its learning, its toil, its prayer, all is for the good of others. Paul draws such a picture of Love in Phil. 2:5-8.

'He emptied Himself of all but love,
And bled for Adam's helpless race'.

Love never has its eye on its own gain, or good, or peace, or comfort or success.

Love is never on the watch for its own rights. It never scrupulously exacts remuneration, recognition, applause, or precedence.

We all have rights to privacy, leisure, comfort, consideration, and rest, and we may have to insist on these sometimes, but never for ourselves, but only that we may be best fitted or maintained to serve and help others. Love is always ready to surrender its own rights. Love makes the follower of Jesus the slave of Jesus.

You may search the life of Jesus with microscopic minuteness, you will never find any hint or trace of self-seeking. The Love-life is joyously a sacrifice.

How shall we get this love?

Keep near to Jesus Christ. He is incarnate Love. Dwell in His fellowship and company. Seek to live on His bosom.

You lay lavender away in your sheets, and when you bring them out they have the fragrance of the lavender. He who wraps Christ in his heart, and who is wrapped in Christ's heart, will shed forth His fragrance of Love.

Love Him and you will find that Love will do what it does to some wedded pairs, or to some twin-souls, it will make them think and be the same, and even share the same, physical likeness.

If you live with Him, His self-sacrifice, self-devotion, patience in interruption, willingness to spend and be spent, His width of compassion, will become yours.

Love grasps not at her rights.

'Immortal Love, for ever full,
For ever flowing free,
For ever shared, for ever whole,
A never-ebbing sea'.

O Heavenly Father, whose little children we have become, through the Son of Thy love, beget this love in us. Like the calyx on some full-blown flower that has unfolded its hands to let its glorious petals float away, so may our hands be open, in self-less giving. Let our love be like Thy own.

Three things are said about Love's attitude to wrong. Love is not provoked, thinks no evil, rejoices not in iniquity. Love is as lovely in its negative qualities as in its positives.

Is not provoked. The Greek word has become the root of our word 'paroxysm'. Love never gets into a paroxysm. Love keeps its sweetness and its patient temper.

The Authorized Version reads: 'Is not easily provoked'. But the 'easily' is not in the Greek text. It reads simply, 'Love is not provoked'. That is all.

We live in an imperfect world. We ourselves are imperfect. We may quite unintentionally do wrongs, even to those whom we love best. Life is full of minor injustices and irritation. Now and again we suffer some awful wrong. But love never gets in a paroxysm. It is sure that there is an explanation, and it awaits it.

How many harsh things are said because we fly into a rage without waiting for an explanation. How often we smart under some sharp thing said because someone would not wait for the explanation we were on the point of making. Are you easily irritated? Do you make the swift retorts?

Jesus Christ was subject to constant pin-pricking, maligning, scorn, and attempts to trip Him up. This ceaseless attack ended in crucifixion. But He was never in a temper.

Love is never embittered by things done to herself. She suffers those in silence. But love can rise in terrible indignation at the wrong done to others. The Gospels give us very occasional pictures of Christ's flaming in anger, but never at things done to Himself. Mark 3:5 tells of His anger at the Pharisees, who objected to His healing a withered hand on the Sabbath. Mark 10:14

records His displeasure at His disciples for keeping little children away from Him. Matthew 23 records the terrible words that fell from Him because of the hypocrisy of the religious leaders.

Resentment at actions done to oneself never bears sweet fruit. The wrongs men do to us can never harm us if we keep a sweet spirit. No one outside of us has any power to damage our character.

'It is hard to fight the wrong of the world at all; but who shall measure the difficulty of fighting it and keeping every bit of personal vengeance, every shadow of reprisal, out of the fight?'

Intent on our own advantage we are incessantly angered to find others at cross purposes. Our selfishness generates irritability.

One Monday twenty years ago, I had arranged to spend the day in prayer with a brother minister. I commenced the day tired, and just as I was about to leave the house, with hat in hand, was approached by a woman who often attended my church. She asked if she could have a minute with me. Some expression on my face, or something in my behaviour, betrayed the inward irritation. She turned away. I recovered myself and persuaded her to come into the house and tell me her story. The night before her girl had run away from home, and was in serious trouble. And I had showed some impatience at being disturbed in my appointment, and that for prayer! Self can invade even our devotions. How much we need to learn to know the meaning of 'I will have mercy, not sacrifice'. Love is never selfish. Love is never irritated at interruptions. Love is never impatient. Here was a woman whose soul was paralysed with fear for her child. Here was a heart as heavy as lead, and I was irritated at a few minutes delay.

Love would teach us to say at every ring of the door bell or telephone, 'The Master is come, and calleth for thee'. Let us learn Love's lesson, and find in every call, the presence and claim of the Master Himself.

'Before the winds that blow do cease,
Teach me to dwell within Thy calm.
Before the pain has passed in peace,
Give me, my God, to sing a psalm.
Let me not lose the chance to prove
The fulness of enabling love.
O Love of God, do this for me:
Maintain a constant victory'.

'O Master, whose patient love and kindness was always at the disposal of the needy, may we show what Thou art like in a needy world. May we never be ruffled by the wear and tear of life. May the inner tranquillity never be disturbed. May men find that they never can provoke us by anything that they do to us. Yet may we be strong in the behalf of others.

POSTS VACANT

Wanted: November. Christian Dispenser, preferably woman. Work interesting and varied, good experience, B.C.M.S. Hospital, Kachhwa, Dist., Mirzapur, U.P.

'Wanted: Female Christian Hindi speaking trained Staff Nurse to work in a 100-bed general hospital. Please apply to Medical Superintendent, Mission Hospital, Jagadhri, Punjab.'

October				Daily Text to be Learned by Heart	Reference Text
1 Th	2 Kings	5:	10	Go and wash and thou shalt be clean ...	Ps. 51 : 7
2 F.	„	5:	16	The Lord liveth before Whom I stand ...	Job 19 : 26
3 S.	„	6:	6	The iron did swim	Ps. 48 : 14
4 Su.	„	6:	17	The Lord opened the eyes of the young man and he saw	Luke 24 : 31
5 Mon.	„	7:	9	This day is a day of good tidings	Luke 2 : 10
6 Tu.	„	7:	18	It came to pass as the man of God had spoken	Jos. 21 : 45
7 W.	„	9:	18	What hast thou to do with peace	Is. 57 : 21
8 Th.	„	10:	31	Jehu took no heed to walk in the law of the Lord	Jos. 1 : 8
9 F.	„	11:	6	So shall ye keep the watch of the house, that it be not broken down	Deut. 12 : 5
10 S.	„	11:	12	God save the King	1 Pet. 2 : 17
11 Su.	„	12:	15	They dealt faithfully	1 Cor. 4 : 2
12 Mon.	„	13:	23	The Lord was gracious unto them and had compassion on them	Lam. 3 : 22, 23
13 Tu.	„	14:	3	He did . . . right in the sight of the Lord yet not like David	Deut. 6 : 5
14 W.	„	17:	9	Israel did secretly those things that were not right	Ps. 90 : 8
15 Th.	„	17:	28	One of the priests . . . taught them how they should fear the Lord	Ps. 111 : 10
16 F.	„	17:	33	They feared the Lord, and served their own gods	Jos. 1 : 8
17 S.	„	18:	6	He clave to the Lord, and departed not from following him	Acts 11 : 23
18 Su.	„	18:	19	What confidence is this wherein thou trustest	Prov. 14 : 26
19 Mon.	„	19:	1	When King Hezekiah heard it . . . he. . . went into the house of the Lord	Dan. 6 : 20
20 Tu.	„	19:	19	Thou art the Lord God, even thou only ...	Is. 45 : 22
21 W.	„	20:	5	I have heard thy prayer, I have seen thy tears	John 14 : 14
22 Th.	„	20:	19	Good is the word of the Lord which thou hast spoken	Prov. 25 : 11
23 F.	„	21:	9	But they hearkened not	Heb. 12 : 25
24 S.	„	22:	2	He . . . turned not aside to the right hand or to the left	Is. 30 : 21
25 Su.	„	22:	19	Because thine heart was tender . . . I also have heard thee	Jas. 4 : 10
26 Mon.	„	23:	3	The King . . . made a covenant before the Lord	Ps. 50 : 14
27 Tu.	„	23:	14	He brake in pieces the images and cut down the groves	Ex. 20 : 3
28 W.	„	23:	21	Keep the passover unto the Lord your God	1 Cor. 5 : 7
29 Th.	„	24:	2	He spake by his servants the prophets ...	Heb. 1 : 1, 2
30 F.	„	24:	19	He did that which was evil in the sight of the Lord	Prov. 15 : 3
31 S.	Psalm	116:	12	What shall I render unto the Lord for all his benefits toward me	Rom. 12 : 1
November					
1 Su.	Psalm	118:	6	The Lord is on my side I will not fear ...	Rom. 8 : 31
2 Mon.	„	118:	15	The right hand of the Lord doeth valiantly	Is. 59 : 1
3 Tu.	„	119:	9	Wherewithal shall a young man cleanse his way	1 John 1 : 7
4 W.	„	119:	31	I have stuck unto thy testimonies... ...	Ps. 19 : 8
5 Th.	„	119:	47	I will delight myself in thy commandments	Jer. 15 : 16
6 F.	„	119:	59	I thought on my ways, and turned my feet unto thy testimonies	Lam. 3 : 40
7 S.	„	119:	67	Before I was afflicted I went astray but now I have kept thy word	Job 5 : 17
8 Su.	„	119:	88	Quicken me after thy lovingkindness ...	Luke 17 : 5

November	Daily Text to be Learned by Heart	Reference Text
9 Mon. Ps. 119 : 105	Thy word is a lamp unto my feet, and a light unto my path	Eph . 5 : 8
10 Tu. ,, 119 : 114	Thou art my hiding place and my shield ...	Prov. 18 : 10
11 W. ,, 119 : 133	Order my steps in thy word	Ps. 37 : 23
12 Th. ,, 119 : 151	Thou art near O Lord	Ps. 145 : 18
13 F. ,, 119 : 176	I have gone astray like a lost sheep ...	Is. 53 : 6
14 S. Hebrews 1 : 2, 3	His Son . . . the brightness of His Glory and the express image of His person ...	John 1 : 14
15 Su. ,, 2 : 3	How shall we escape, if we neglect so great a salvation?	2 Cor. 6 : 2
16 Mon. ,, 2 : 18	He is able to succour them that are tempted	Is. 41 : 10
17 Tu. ,, 3 : 2	Moses was faithful in all his house ...	Rev. 2 : 10
18 W. ,, 3 : 19	They could not enter in because of unbelief	Deut. 8 : 11
19 Th. ,, 4 : 16	Let us therefore come boldly unto the throne of grace	Matt. 7 : 7
20 F. ,, 5 : 8	Though he were a son yet learned He obedience	1 Sam. 15 : 22
21 S. ,, 6 : 3	This will we do if God permit	James 4 : 15
22 Su. ,, 7 : 8	It is witness that He liveth	Acts 1 : 3
23 Mon. ,, 7 : 25	He ever liveth to make intercession ...	John 17 : 9
24 Tu. ,, 8 : 12	Their sins and their iniquities will I remember no more	Micah 7 : 19
25 W. ,, 9 : 12	By his own blood He entered . . . into the Holy place	Lev. 17 : 11
26 Th. ,, 9 : 28	Unto them that look for him shall He appear the second time	Luke 12 : 37
27 F. ,, 10 : 14	By one offering He hath perfected for ever then that are sanctified	1 Cor. 1 : 30
28 S. ,, 10 : 24	Let us consider one another	Eph. 4 : 32
29 Su. ,, 10 : 31	It is a fearful thing to fall into the hands of the living God	Deut. 4 : 24
30 Mon. ,, 11 : 6	Without faith it is impossible to please Him	Rom. 5 : 1

NEW MEMBERS LIST

Name	*No.*	*Address*
Miss B. J. Person	272	Baptist Mission, Tezpur, Assam.
Miss Meloe R. Marak ...	13	Baptist Christian Hospital, Tezpur, Assam.
Miss M. E. Pitts	163	Medical Mission Hospital, Tiruvalla, Travancore.
Miss M. C. Miller	204	,, ,, ,,
Miss A. Varughese	16	A. V. School of Nursing, C.M.C. Hospital, Vellore.
Miss I. M. Johnston ...	17	Memorial Hospital, Fatehgarh, U.P.
Mrs. Olive Nelson Lorbeer (Reg.)	103	St. Martins, Pasumalai, Madura Dist.
Miss M. M. Ross	50	Charteris Hospital, Kalimpong
Miss P. Simick	52	,, ,,
Miss S. Simick	39	,, ,,

PRINTED IN INDIA AT THE WESLEY PRESS AND PUBLISHING HOUSE, MYSORE

SPECIFY C.D.C. PHARMACEUTICALS

known the world over

HEPORAL
(POLYVALENT LIVER EXTRACT)
NEO-HEPORAL
(VITAMIN B12 CONCENTRATE)

SYRUP
AMPOULES
TABLETS

VITALYN (B-C)
(VITAMIN "B" COMPLEX)
VITALYN (V-M)
(MULTIVITAMINS-MINERALS COMPOUND)

SYRUP · ELIXIR
AMPOULES
TABLETS · DROPS

All products made under strict Laboratory control.
Write for Catalogue

ESTD. C.D.C. 1925

MANUFACTURED BY
EDISONS CONTINENTAL LABORATORIES LIMITED.
135 ANNIE BESANT ROAD WORLI BOMBAY 18.
SOLE DISTRIBUTORS:
CONTINENTAL DRUG COMPANY LTD.
135 ANNIE BESANT ROAD WORLI BOMBAY 18.

"ALDESTAN"
THE ONLY TIN COMPOUND FOR TYPHOID

Aldestan Tablets, effective in *all* stages of *Typhoid*. Bottles of 30, 60 and 300 at Rs. 5, Rs. 9 and Rs. 40 respectively.

Packing, forwarding charges and sales tax extra

Important: Special Concession to Missionary and Charitable Institutions.

N.B.—Descriptive literature and exhaustive clinical reports on request.

SOLE DISTRIBUTORS FOR BOMBAY AND SAURASHTRA STATES:

CHAVANNES & CO., LTD.

Mercantile Chambers,
Graham Road, Ballard Estate Bombay—1

Post Box: **552** *Telegram:* **INDOFRANCO** *Telephone:* **21454**

HOSPITAL
AND
DISPENSARY RECORDS

Daily and Four-hourly Temperature Charts

Order Sheets. Laboratory Records

Case Records. Operation Records

Blood Sugar Tolerance Test Records

Carbon Duplicate Hospital Account Book

Dispensary Records

THE WESLEY PRESS & PUBLISHING HOUSE
MYSORE CITY
AND
THE C.M.A.I. HOSPITAL SUPPLY AGENCY
DHAPLA BUILDING
GOVERNMENT GATE ROAD
BOMBAY 12

„Bayer"
LEVERKUSEN
GERMANY

are the pioneers in synthetic anti-malarials

BAYER

RESOCHIN

the original chloroquine preparation was invented in the „Bayer" Laboratories.

A powerful anti-malarial for therapy and prophylaxis.

A single dose of 4 tablets will control an acute attack of malaria in semi-immune patients.

Sole Importers in India:

CHOWGULE & CO., (HIND) LTD.

P. O. Box 1478, BOMBAY 1.
Branches: P. O. Box 8943, Calcutta 13.
P. O. Box 1743, Madras 1.

V/EG/n

THE JOURNAL OF THE CHRISTIAN MEDICAL ASSOCIATION OF INDIA, PAKISTAN, BURMA AND CEYLON

Editor: H. H. GASS *Associate Editor:* DONALD E. PATERSON

Members of Editorial Board:

D. S. C. DEVADHAR I. E. J. DAVID Y. D. UZGARE

Published Bi-monthly, One Volume per year by The Wesley Press, Mysore City

EDITORIAL COMMUNICATIONS

Original Communications. The JOURNAL will be pleased to consider for publication suitable articles by non-members as well as by members of the Christian Medical Association of India, Pakistan, Burma and Ceylon. Manuscripts should be sent to the Editor, H. H. Gass, M.D., Christian Medical College Hospital, Vellore, North Arcot District, S. India. Articles are accepted for publication upon the understanding that they are contributed solely to the JOURNAL of the Christian Medical Association of India, Pakistan, Burma and Ceylon.

Neither the Editor nor the publishers accepts responsibility for the views and statements of authors as published in their Original 'Communications'.

Manuscripts. Manuscripts should be typewritten on one side of the paper only with double spacing and liberal margins. Pages should be, if possible, $8\frac{1}{2} \times 11$ inches. References should be placed at the end of the article and should include, in the order given: name of author, title of article, journal, volume, page and year. Illustrations accompanying manuscripts should be numbered provided with suitable legends and marked on margin or back with the author's name.

Illustrations. A reasonable number of half-tone illustrations will be reproduced free of cost to the author, but special arrangements must be made with the Editor for elaborate tables or extra illustrations. Copy for zinc cuts (such as pen drawings and charts), should be drawn and lettered only in indian ink or black typewriter ribbon as ordinary blue ink or colours will not reproduce. Only good photographic prints or drawings should be supplied for half-tone work.

Reprints. Twenty-five reprints of articles published among 'Original Communications' will be furnished to the author free of charge. Arrangements for additional reprints must be made directly with the publishers, The Wesley Press, Mysore City, Mysore. Individual reprints of an article must be obtained through the author.

Consultants' Column. Questions for the Consultants' Column are to be sent to the Editor.

Institutional Reports and News Notes. Annual Reports of hospitals and other medical institutions, brief descriptions, celebrations or developments in them and personal notes concerning members are solicited for the above departments of the JOURNAL. They should be sent to the Secretary, E. W. Wilder, M.D., Nelson Square, Nagpur 1.

Notices and Classified Advertisements are to be sent to the Secretary. The latter should be accompanied by a Money Order for Rs. 3 per insertion for 3 lines.

Change of Address. The Secretary and Publishers alike would appreciate prompt notice of change of address of members which may be sent either to the Secretary or the Wesley Press, Mysore. In this connection the attention of members going on furlough or study leave is drawn to the fact that it costs no more to send their JOURNAL overseas than to their local station. On leaving the country send your forwarding address to the Press.

Commercial Advertising. Enquiries concerning space should be addressed to the Manager of the Wesley Press, Mysore City, Mysore.

Memberships and *Subscriptions* are collected by the Publishers. Notice of expiry of such is sent to the individual by the Press one month before expiry. On receipt of such notice it is requested either that immediate payment by Money Order be made or that instruction be given to responsible persons to accept the next JOURNAL V.P.P. if the member or subscriber himself is to be out of station. Careful observance of this will assist the publishers and the secretary and prevent many a lapsed membership.

Christian Medical Association of India, Pakistan, Burma and Ceylon

MEMBERSHIP

The membership of the Association shall be open to Christian medical men and women who hold a recognized qualification in Western Medicine registerable in India or its equivalent. Membership implies full sympathy with the main object of the Association, defined as the prevention and relief of human suffering and the pursuit of measures for the promotion of health in the spirit of Christ in the extending of the Kingdom of God.

Entrance fee, required from all members, is two rupees with the exception mentioned below. Annual dues are seven rupees in advance; but when there is more than one member at the same address, up to a maximum of three members may combine to share one Journal if so desired. The rates then will be for two members to one Journal Rs. 9 per year, for three members Rs. 11 per year. Those desiring group membership should apply in groups of two or three sending the amount indicated and the names of the members indicating in whose name the Journal is to be sent. When a member is on furlough and payment is to be paid in other currencies:

	India	*America*	*Europe*
One Year's Subscription:	Rs. 5	$ 1.10	sh. 8
One Year's Membership:	„ 7	$ 1.50	sh. 11
One Year's Entrance Fee and Membership:	„ 9	$ 2.00	sh. 14
Pakistan	„ 7		

An exception is made for members whose monthly salary does not exceed Rs. 100. For such the entrance fee is eight annas and the annual dues are five rupees and eight annas, except that when husband and wife are both members the entrance fee will be eight annas each and the total annual dues will be six rupees, with the provision of one Journal only.

New members shall be proposed by one member of the Association.

The

Guide to Treatment which

never becomes out of date.....

The practitioners Card Index Guide to treatment **(Published by Messrs Practitioners Guide Index Ltd., London-England)** is the most unique, rapid, up-to-date reference system giving the latest methods of therapy in nearly 400 different diseases. The subject matter, compiled by specialists experienced in Medical Publishing, is revised and brought completely up-to-date every three months in steps with the latest development in world medicine. It thus fills a long felt want in providing a compact, comprehensive reference system which never grows old. One complete index, with an addendum of modern pharmaceutical specialities, is supplied in a handsome cabinet for **Rs. 35/-** including the first four quarterly replacements. Subsequently, cost of the replacement service is **Rs. 12/-** per annum.

Full details may be obtained from:

TIMES SURGICAL CO.

(Sole agents for India and Pakistan)

P.O. Box No. 1336 **DELHI-6. India.**

When selecting a sulphonamide STOP and THINK, for there is danger of Renal Blockage if you do not choose wisely.

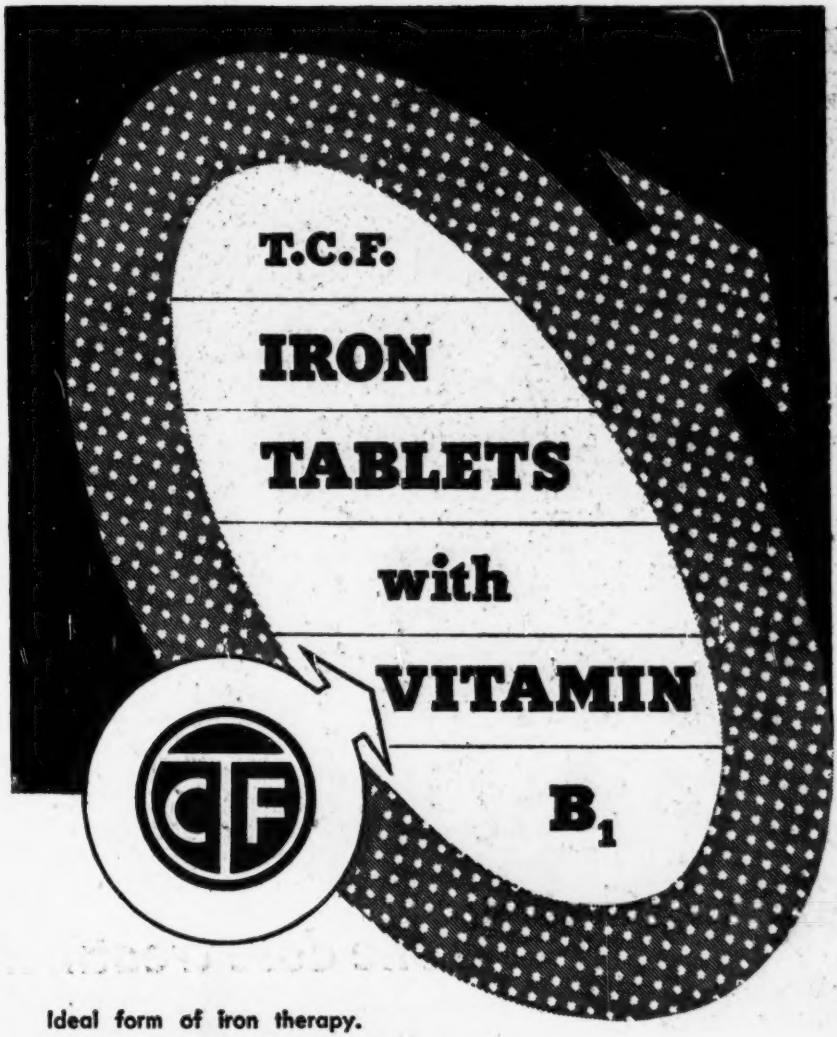
'Sulphamezathine' is the safe single sulphonamide, and in ten years of its history there has been no death due to renal blockage recorded.

Available in the form of tablets (0.5 Gm.); oral suspension; lozenges; powder; and as the sodium salt in sterile solution for parenteral administration.

IMPERIAL CHEMICAL INDUSTRIES (INDIA) LIMITED

Calcutta Bombay Madras Kanpur New Delhi
Ahmedabad Amritsar Bangalore Cochin

ICP 189



Ideal form of iron therapy. The minute traces of copper and manganese contained in T.C.F. Iron Tablets with Vitamin B_1, act as catalytic agents, and render the iron fully assimilable. Vitamin B_1 counteracts any constipating action.

In bottles of 50, 100 and 500 tablets; also tins of 1000 and 5000 tablets.

A product of
TEDDINGTON CHEMICAL FACTORY LTD.
(Biological & Pharmaceutical Laboratories)
Suren Road, Andheri, Bombay.

Sole Distributors:
W.T. SUREN & CO. LTD.
Post Box 229, Bombay 1.

Branches:
CALCUTTA: P. O. Box 672.
MADRAS: P. O. Box 1286.

Malaria. . . a one dose treatment

The outstanding advantage of CAMOQUIN is the ease with which the control of malaria can be achieved. A single dose can usually be relied upon to produce an effective clinical cure, while one dose every fortnight gives a high degree of protection.

CAMOQUIN has met with considerable success in all forms of malaria in Africa, India, the Philippines and South America and has been suggested as the product of choice*.

PARKE-DAVIS **CAMOQUIN**

Supplied in single-dose pack of 3 tablets and bottles of 1000.

* *"The superiority of 'Camoquin' over other antimalarials", Singh, I. & Kalyanum, T. S.* Brit. Med. Jnl.,

Parke, Davis & Company, Limited Inc. U.S.A. Bombay